TECHNICAL BOOK REVIEW INDEX

Published monthly, except July and August, by Special Libraries Association. Entered as second-class matter September 25, 1940 at the Post Office, at Pittsburgh, Pa., under the Act of March 3, 1879. Compiled and edited in the Technology Department, Carnegie Library of Pittsburgh, 4400 Forbes St., Pittsburgh 13, Pa. Subscriptions, renewals, and orders for back numbers should be sent to Special Libraries Association, 31 East Tenth St., New York 3, N. Y. Price $7.50 a year in the United States; $8 elsewhere.

JULIA C. WALLACE, *Editor*

Volume 14 **December, 1948** **Number 10**

THE purpose of the Technical Book Review Index is primarily to identify reviews in current scientific, technical, and trade journals; secondarily, when feasible, to quote from these reviews. In the evaluation of scientific and technical books, reviews constitute the best existing source of information. The service of the Technical Book Review Index is thus in the field of evaluation, rather than in competition with existing publications which announce new and forthcoming books, list books by subjects, or supply bibliographic information. Each quotation immediately follows the name of the journal from which it is taken. Obviously, these brief extracts, detached from the context, must not be accepted as conclusive. Except for the correction of obvious errors, the bibliographic information is as given in the reviews. It is, therefore, in many cases incomplete and in some cases probably inaccurate.

Anderson, Paul. Substructure analysis and design. 1948. Irwin-Farnham, Chicago, $4.50.

Journal of the American Concrete Institute, Nov. 1948, p.270. ⅔ p.

"An interesting and well-written text-book on this subject. Its emphasis is on the analyses leading to the design of various foundation structures, although there are many illustrative problems dealing with their general design. The text also includes considerable general descriptive material on methods of construction and procedures. There are numerous references cited for those who wish to pursue further the topic under discussion and a number of tables giving useful data. Each chapter ends with the usual problems designed to test a knowledge of the preceding text." *Ralph W. Kluge.*

Applied physics. 3 bks. in 1. 456p. 1948. Little, Boston, $6. (Science in World War II; Office of Scientific Research and Development.)

bk.1. Electronics; edited by C. G. Suits.

bk.2. Optics, by H. K. Stephenson and E. L. Jones; edited by G. R. Harrison.

bk.3. Metallurgy, by Louis Jordan.

Physics today, Nov. 1948, p.25. ⅔ col.

"A record of cleverness and success in many undertakings, of expert organization and prompt execution of programs, of close liaison between scientist and consumer, in this case the military . . . The book is not just a digest of the innumerable NDRC reports that dogged the footsteps of progress during the war, but is a somewhat interpretative history of each of the divisions, and in spots it is highly entertaining reading." *Richard M. Sutton.*

Radio-electronics, Oct. 1948, p.95. ¼ col.

"Devotes 194 pages to electronics. A history of the work of the National Defense Research Committee, it describes the work done by Division 13 (Electrical Communications), Division 15 (Radio Co-ordination), and the Committee on Propagation. Much of the material, especially that dealing with radar countermeasures, has appeared in various publications, and is here brought together in a form easy to refer to. The section on Optics has some information on infra-red and ultra-violet light, and sound, which is interesting from the communications point of view."

Asch, John. Story of plants. 407p. 1948. Putnam, New York, $5.

Fertilizer review, Sept.-Oct. 1948, p.15. ⅓ col.

"Many facts about the essentials of plant life are stated in simple and interesting style. The functions of air, water, light, soils and climate in the producing of plants are explained. The atom, evolution, cell structures, the birth of new plants, pollination and fertilization are among the numerous topics discussed. Finally, man's part in the selection, breeding, cultivation and utilization of plants is described. A very readable section . . . deals specifically with the removal of plant nutrients from the soil by harvested plants and the consequent necessity for replacement of such nutrients through the application of fertilizers."

Natural history, Sept. 1948, p.293. ⅔ col.

"Combines the history of botany, plant physiology, structural botany, paleobotany, systematic botany, organic chemistry, the effect of nuclear physics—in short, a summary of the important features of plant life, described in language that a person with little or no knowledge of botany and related subjects can understand without consulting a glossary or dictionary . . . This is a thoroughgoing accurate, and dependable piece of work, more copiously illustrated than any book of the kind known to this reviewer, and the drawings, which were done by Tabea Hofmann, are excellent in quality and very helpful in the comprehension of the story . . . This is not a textbook, but it contains all the essential features of a textbook, put in an attractive and fascinating shape." *Clyde Fisher.*

Bachmeyer, Arthur C., & Hartman, Gerhard, ed. Hospital trends and develop-

ments, 1940-1946. 818p. 1948. Commonwealth Fund, New York, $5.50.

Hospital management, Oct. 1948, p.24. ⅝ col.

"Hospital administrators, assistants, department heads, board members and trustees and students of hospital administration will find much food for thought in this compilation of evaluated articles selected from periodical literature, published in hospital and allied fields during 1940-46. All essential fields of hospital work are discussed in compact, comprehensive form to provide a ready reference to aid in competent administration."

Baker, H. Wright, ed. Modern workshop technology. pt.1: Materials and processes. 445p. 1948. Cleaver-Hume Press, Ltd., 42a South Audley St., London, W.1, 28s. net.

Commonwealth engineer, Sept. 1, 1948, p.102. ½ col.

"Bridging the gap between academic and professional life and fostering a closer relationship between industry and teaching is the stated object of this book. It has attained its object . . . Will have an appeal to the student wanting to round off the corners of classroom teaching, to the engineer as a reference book and as a guide to the furtherance of any particular subject within its covers."

Journal of scientific & industrial research, Aug. 1948, p.366. ½ col.

"Deals with practically all aspects of workshop procedure, beginning from raw materials and ending with the manufacture of finished products and their testing and inspection . . . Cannot be recommended as a text-book since the subject matter has not been dealt with exhaustively but the general information given therein has been presented in a well-condensed form. This book will, therefore, be a very useful addition to a technical library . . . Contains very useful information on all aspects of workshop technology, well arranged and condensed into small space, and an interested reader will be much benefited by its study." *D. R. Malhotra.*

Metal industry, Oct. 15, 1948, p.309. ⅝ col.

"Deals with the application of science in the factory. The editor takes the view that engineering education is efficient only when it functions as a cyclic process, with technically trained men 'paying back' the specialized knowledge and experience gained in industry . . . Each subject is treated from the scientific standpoint, with full attention to the application of the principles involved to practical operations, and a good bibliography together with typical examination questions is appended to each chapter . . . Will provide a guide for engineers preparing for professional examinations and a work of reference to which they can turn later with a certainty of finding the basic principles and the position as seen in 1948 by men in daily touch with the subjects on which they have written and special familiarity with recent developments." *E. H. B.*

Bawn, C. E. H. Chemistry of high polymers. 250p. 1948. Interscience Publishers, New York, $4.50.

Rubber age, Sept. 1948, p.780. ⅝ col.

"Based on a series of postgraduate lectures given in the autumn of 1946 at the University of Bristol (England), this book is addressed to those who wish to become familiar with some of the basic ideas of the physcis [sic] and chemistry of high polymers. In this sense, it is a welcome addition to the technical literature . . . Will not only be of interest to the beginner but also to those in industry who wish to learn more about fundamental advances."

Beck, A. H. W. Velocity-modulated thermionic tubes. 180p. 1948. Cambridge Univ. Press, London, 15s. (Modern radio technique series.)

Instrument practice, Aug. 1948, p.425. 1 col.

"The avowed aim of the series is to present authoritative introductions to various phases of the radar field. The high standard is more than maintained in this work and may be unreservedly recommended to readers—with this warning: an adequate knowledge of advanced mathematics is required."

Behrman, Howard T., & Levin, O. L. Your skin and its care. 255p. 1948. Emerson, New York, $2.50.

Drug & cosmetic industry, Oct. 1948, p.523. ⅛ col.

"Two skin specialists offer scientific advice on proper skin care. Health and cosmetic aspects are both given detailed consideration in language easily understood by the average person . . . The authors describe the underlying causes of skin conditions and explain the latest techniques and treatments. A program of skin hygiene is set forth, and the reader is directed and encouraged in beneficial methods of skin care. Cosmetics are discussed at length and instructions are given in their use for desired results."

Breland, Osmond P. Animal facts and fallacies. 268p. 1948. Harper, New York, $3.

Natural history, Nov. 1948, p.389. ¾ col.

"Here . . . is a book on animals by a zoologist. Dr. Breland . . . has spent ten years collecting the material for this work. Museum people will recognize many of the questions as old familiar friends. They are typical of the questions lay people call upon the museum staff to answer—the kinds of questions curious children, students, and adults ask about animals. They are not profound questions, nor are they necessarily indicative of a serious scientific interest on the part of the questioner. For the most part the form used in the book is in question and answer form . . . Designed for use as a handy reference rather than to be read at a single sitting. A wide variety of matter is included, ranging from the antics of snakes, bats, electric eels, elephants, and pelicans to the subject of how porcupines mate. Professor Breland's sources represent some of the outstanding authorities in the natural science field, including a number of members of the American Museum of Natural History's scientific staff." *John R. Saunders.*

Brown, G. G., and others. Natural gasoline and the volatile hydrocarbons. 92p. 1948. Natural Gasoline Assoc. of America, Okla., $4.

Journal of the Institute of Petroleum, Sept. 1948, p.282a. ½ p.

"Summarizes the properties of the volatile hydrocarbons with an ample bibliography of 144 references . . . A most valuable and useful

reference for the physical properties of the more volatile hydrocarbons, as it includes no less than 67 charts plotted on a large scale, together with 25 tables of properties." *F. H. G.*

Brown, Gordon S., & Campbell, D. P. Principles of servomechanisms; dynamics and synthesis of closed-loop control systems. 400p. 1948. Wiley, New York, $5.

Mechanical engineering, Nov. 1948, p.925. 1⅔ col.

"Professors Brown and Campbell have written a book which should be well received in both school and industry. It is a result of nine years of teaching the subject at the Massachusetts Institute of Technology, and an equal length of time spent in and directing the Servomechanisms Laboratory, a sizable group at M.I.T. serving the government and industry . . . Well-written and in an interesting fashion. By setting forth a unified treatment of servomechanisms, it can be a valuable aid to the engineering student. By presenting the manner in which mathematical methods may aid in design, it can serve a most useful purpose to many practicing engineers . . . A stimulating presentation, well worth the study of anyone interested in the field. Despite the broad background normally required for such a study, the authors have developed the subject well from elementary considerations, supplying appropriate material in the text whenever the book extends beyond the undergraduate level." *William R. Ahrendt.*

Product engineering, Nov. 1948, p.175. ½ col.

"As stated in the subtitle . . . dynamics synthesis is the central theme of the book. It sets forth in fairly simple terms a procedure for understanding the complexities in the behavior of a servomechanism system and a technique for the direct approach to system design as a substitute for the approach through experimentation. An aim of the book is to establish in the mind of the designer a concept of synthesis as contrasted with mere analysis."

Burchard, John. M.I.T. in World War II; Q.E.D. 354p. 1948. Wiley, New York, $3.50.

Journal of chemical education, Nov. 1948, p.643. ⅝ col.

"The lengthy and exceedingly complex account of Technology's wartime activities has been reduced by Dean Burchard to a very readable and well-organized story. For the first time many of the staff have been able to understand and to appreciate the part that their colleagues played in the greatly varied program. Although the story contains much of which M.I.T. deservedly may be proud, there has been a determined effort by the author to avoid all boasting, and to present a straightforward narrative of the doings of the Institute staff in research and development work at home and away on diverse missions. The result is an absorbing tale of remarkable teamwork between representatives of the Armed Services and civilian experts, and of their accomplishments under the necessarily tremendous pressures resulting from the urgent needs of the ever-expanding wartime program." *Walter C. Schumb.*

Journal of the Franklin Institute, Nov. 1948, p.431. ⅝ p.

"An active participant himself, Mr. Burchard has written a comprehensive and readable account of the contributions of Massachusetts Institute of Technology toward winning World War II . . . A fine record and one that adequately demonstrates the capacity of a private university to contribute to the nation's welfare as effectively in time of war as it does in time of peace." *G. E. Pettengill.*

Camm, F. J. Newnes television manual. Ed.7, revised. 224p. Newnes, London, 7s. 6d. net.

Electrician, Oct. 22, 1948, p.1239. ⅓ col.

"This book is in three sections: first of all the book proper, secondly a dictionary of television terms which covers 59 pages, and thirdly a list of correct definitions of standardised television terms and receiver control markings agreed by the Television Committee of the Radio Manufacturers' Association . . . The preface, which was written to the fifth edition in 1942, explains that the book does not deal with television proper, but with the many secondary applications of television principles, such as talking film television."

Cannon, Paul R. Some pathologic consequences of protein and amino acid deficiencies. 49p. 1948. C. C. Thomas, Springfield, Ill., $1.50.

Journal of the American Dietetic Association, Oct. 1948, p.886, 888. ⅜ col.

"New concepts regarding the results of protein and amino acid deficiencies have been brought together in this recent monograph . . . The importance of proteins is well pointed up both by a consideration of the consequences of *total* amino acid deficiency and the effects of a *specific* amino acid deficiency . . . The dietitian and nutritionist will find this small monograph of real value in attempting to fit the needs for protein into the world-wide problems of food shortage, hunger, undernutrition, and disease."

Church, Earl F., & Quinn, A. O. Elements of photogrammetry. 120p. 1948. Syracuse Univ. Press, Syracuse, N. Y., $3.

Military engineer, Oct. 1948, p.490. ⅓ col.

"This text-book on the basic principles and fundamental applications of photogrammetry first discusses elementary theory and applications and then covers some of the uses of the science. Included are stereocomparagraph and contour-finder technique, planimetric maps, mosaics, topographic mapping with the multiplex-projector, oblique photographs, and the trimetrogon method for reconnaissance mapping. Engineers will find the book clear and concise. The authors have held to their objective of theoretical treatment of the subject with the more common applications."

Cole, Robert H. Underwater explosions. 437p. 1948. Princeton Univ. Press, Princeton, N. J., $7.50.

Physics today, Oct. 1948, p.35. 11 l.

"An excellent treatment of the subject from the physicist's point of view. Devoted largely to the specialized kind of dynamics associated with the detonation of high explosives under water and with the various forms in which the resulting energy is dissipated. With the possible exception of the discussions of instrumentation, the ordnance engineer and naval architect will find little to aid them in their continual weapon-vessel conflict except a better

understanding of the fundamental ideas involved. For the naval physicist, however, it remedies a serious deficiency in the literature." *Royal Weller.*

Connor, R. See Noyes, William A., ed.

Constant, Hayne. Gas turbines and their problems. 176p. 1948. Todd, London, 7s. 6d. net.

Institute of Marine Engineers, notices, Oct. 31, 1948, p.8. ⅝ col.

"A useful and well-written book . . . Deals largely with the development of jet and propeller operated gas turbine plans for aeroplane propulsion. The only industrial long life type of turbine illustrated is the 500 h.p. Parsons experimental set. The remarks on long life gas turbine units suitable for land and marine use are given without bias and are useful when the subject is being dealt with in a generalized way. Where however particular problems applicable to the marine field are stated, it is clear that the author's experience in this field is limited. His introductory remarks on the section dealing with marine power plants are largely reminiscent of Naval as opposed to Merchant ships' requirements."

Oil engine and gas turbine, Oct. 1948, p.209. ½ col.

"In view of the author's eminence, it is no surprise that this work is an authoritative, as well as interesting, survey of the present position occupied by the gas turbine in the prime mover field . . . Mathematical data have been completely avoided in the technical chapters but Mr. Constant has not reduced his explanations to quite the simplest terms; it is advisable for the layman to make certain he is familiar with common aerodynamic terms, such as Reynolds and Mach Numbers, before he tackles these interesting chapters in search of more detailed knowledge of gas turbine problems . . . In no sense a text book, but rather a comparatively short discourse on gas turbines in general and their main components in particular."

Cruickshank, Helen G. Flight into sunshine; bird experiences in Florida. 196p. 1948. Macmillan, New York, $5.

Natural history, Nov. 1948, p.391, 432. ½ col.

"Those who are planning a trip to Florida will find this a helpful guide to many of the more outstanding wild areas. Those who are not will find Mrs. Cruickshank's colorful account an excellent substitute. Most of Florida's best-known birds appear in these pages, such as the common brown pelican, the stately Florida crane, and the strange snakebird, to mention but a few. Here, also, are the answers to the often-asked questions about how bird photographers carry on their occupation . . . The author very expertly works into her accounts sufficient material on the habits, conservation, and present status of each species to make them excellent general biographies . . . All in all, a book well designed to make any naturalist who cannot get away for a spring vacation in Florida chafe at the bit." *Richard H. Pough.*

Cuttell, J. R. The H.T.S.T. plant; an introduction to technique, control, management. 100p. 1948. Dairy Industries, Ltd., London, 15s.

Food, Oct. 1948, p.318. 1⅛ col.

"Intended for the use of all who are in any way concerned with modern milk processing . . . Mr. Cuttell has brought together a good deal of useful information, the fruits of his own long practical experience in the heat treatment of milk, on the technological aspects of what is one of the most important methods for ensuring the safety and keeping quality of liquid milk. Naturally a volume of such small dimensions as this . . . is not exhaustive in its treatment of even any one aspect of the many problems involved, and indeed no such claim is anywhere made. But all concerned in this industry, at whatever level of responsibility, will, the reviewer believes, be stimulated to study more deeply whatever branch of the industry is their more immediate concern . . . An admirable little book which deserves to be widely known." *H. M. Langton.*

Journal of the Royal Sanitary Institute, Nov. 1948, p.632. ⅛ p.

"[This] treatise, which in the preface is welcomed and well commended by . . . Professor H. D. Kay, the originator of the phosphatase test, can . . . be depended upon to provide a trustworthy guide to all who have to deal with the installation and control of plants of this description, which are bound to replace, by their inherent good and reliable characteristics, the older 'holder' plants."

Darrow, Karl K. Atomic energy. 80p. 1948. Wiley, New York, $2.

Mines magazine, Oct. 1948, p.41. ⅛ col.

"Clearly and conversationally Karl Darrow gives you the essentials of this powerful discovery—its scientific background, development and its potentialities . . . Simple and interesting analogies describe confusing terms. Photographs and diagrams illustrate the text where necessary. Dr. Darrow takes the reader along in easy stages—eliminating what is unnecessary—to give a lucid but scientific picture of the force responsible for the atomic bomb. You will learn about the 'sinister nuclei' uranium 235 and plutonium 239 . . . why and when they explode. Atomic Energy will give you the background you need to keep up with the fast-moving developments of this powerful tool."

Physics today, Nov. 1948, p.23. 1⅔ col.

"'Atomic Energy' has a rather limited objective. It doesn't go off into the construction of synchrocyclotrons or the nature of cosmic rays, nor does it offer any colorful description of Oak Ridge's isotope-separation plant. Instead, this very concise account is restricted to the minimum number of examples necessary to explain the bomb- or pile-conversion of nuclear mass into kinetic and radiant energy. Since this can be most conveniently told in terms of the light elements with only a few elementary particles, Darrow devotes most of his discussion to them, virtually ignoring uranium and plutonium for the first half of the book. The result is an account which, within its limited scope, is consistent and complete." *Harry M. Davis.*

Science, Nov. 5, 1948, p.515. ⅛ col.

"This brief absorbing treatment of the physics of nuclear energy retains the informal language of Dr. Darrow's lectures at Northwestern University. It is a contribution to the growing list of publications whose admirable objective is to explain the physics of nuclear energy to the layman and to scientists in other fields. Within its 80 pages the reader who seeks to

obtain a general review of the field will find a surprising amount of sound information woven into an interesting story . . . Dr. Darrow's book is distinguished among its kind by its brevity and the clarity of presentation. He gives enough, but just enough, information for the nonscientist to follow the essential ideas without becoming lost in extraneous details." *R. D. Huntoon.*

South African mining and engineering journal, Oct. 2, 1948, p.138. ⅓ col.

"Interestingly written in a rather racy style . . . The structure of the atom is simply explained in terms of protons, neutrons and electrons. The difference between atomic reactions and nuclear changes are described. Isotopes are explained as the different kinds of atom belonging to one and the same element having nuclei identical in charge but different in mass. Students and the general reader should gain a clear conception of the basic principles of nuclear theory and the characteristics of the atom from this book."

Davis, Tenney L., ed. Chymia; annual studies in the history of chemistry. v.1. 190p. 1948. Univ. of Pa. Press, Philadelphia, $3.50.

Chemical and engineering news, Oct. 18, 1948, p.3152. ⅔ col.

"There are 14 essays . . . each dealing with a different subject and ranging in length from the four-page introduction by Eva Armstrong on the Edgar Fahs Smith library to a 25-page essay by Tenney Davis on pyrotechny. Each article is the result of serious research by a competent historian of chemistry, and the book is a valuable supplement to the existing histories of the science. For this reason it should be in all chemistry and college libraries and in the reference departments of the larger public libraries. However, several of the essays may be too specialized to be of interest to the chemist who is unfamiliar with the background of his profession . . . Contains no index, the editor evidently considering it unnecessary for this first volume . . . Most of the essays contain copious references." *Wyndham Miles.*

Endeavour, Oct. 1948, p.175. ⅝ col.

"All those interested in the history of science in general, and of chemistry in particular, will welcome the appearance of the first volume of this series . . . The editorial board consists of the leading American scholars in the field and the consulting editors represent the foremost experts from other countries. These facts should guarantee the quality of the articles, and the first volume sets a high level of interest and scholarship as well as presenting a remarkable and praiseworthy catholicity of subject matter . . . Pleasantly printed on good quality paper, and the only slight criticism that could be made refers to the plates, which are not reproduced quite as clearly as might be wished." *Denis Duveen.*

Dormon, E. G., & Elmes, E. J. Brickwork. 246p. Pitman, London, 7s. 6d.

Surveyor, Oct. 15, 1948, p.538. ⅓ col.

"Intended for use in junior building courses of secondary technical schools, and will give students who have chosen bricklaying as their future employment a good grounding in the trade . . . All practical details are clearly described and illustrated, with enough elementary theory to give the student a sound knowledge of the principles on which good brickwork is based. The illustration in colour of four types of brick provides a new and welcome feature, which might with advantage be extended in future editions to include other well-known varieties . . . The general use of this book should lead to a high standard of craftsmanship, and will also be found of value by all students of building construction, irrespective of trade." *C. W. C.*

Dunlap, Orrin E., jr. Radar; what radar is and how it works. Ed.2. 246p. 1948. Harper, New York, $3.

Proceedings of the I.R.E., Oct. 1948, p.1272. 1 col.

"All the material in the first edition remains intact, but much is added to the dramatic account of the exploits of radar, part contributed by Commander Edwin O. Wagner, U.S.N., and part through the postwar application of radar to commercial marine navigation. Nowhere has this reviewer seen a more satisfying narrative of the story of radar in action. The nontechnical reader will find is highly informative, as well as exciting. The technical reader will find it stimulating to further invention in the field of radar. Both will be interested in the possibilities of further application of radar to peacetime use . . . For a sensational account of what radar has done and for thought-provoking suggestion of what radar might do, this book in its second edition heads the list of recommended reading." *Robert M. Page.*

Einarsen, Arthur S. The pronghorn antelope and its management. 238p. 1948. Wildlife Management Inst., Washington, D. C., $4.

Nature magazine, Oct. 1948, p.395. ⅓ col.

"Brings together the story of a species, covering its history and historic distribution, its present status, its life history and characteristics, its relation to man and the problems of its maintenance as a member of our surviving fauna. The author . . . writes interestingly, often with special charm when he finds himself freed of presenting scientific data."

Ferrar, W. L. Higher algebra; a sequel to higher algebra for schools. 320p. 1948. Oxford, New York, $5.

School science and mathematics, Nov. 1948, p.673. ⅔ p.

"The author states that the book is written for young mathematicians who have already studied the more elementary parts of algebra. This reference to English students emphasizes the difference in mathematics courses in England and the United States . . . Would not be a suitable text for a high school course, in fact, it is doubtful if many teachers would want to use it in junior college work . . . Some of the treatment, although rigorous, is reasonably elementary. The teacher will find some portions a true treasure trove of hints, problems, proofs, and other usable material . . . The thorough treatment of the topics would make the book a valuable reference for a high school library, and particularly valuable in a college library where portions might well be made required supplementary reading in work in advanced algebra, theory of equations, or some portions of calculus." *Cecil B. Read.*

Science, Oct. 29, 1948, p.487. 1 col.

"Although this book is a sequel to *Higher*

algebra for schools, it is not written so that the earlier book is the only source of the needed preliminary knowledge. The material is planned for study in 'top mathematical forms in schools and first year classes in universities' . . . As a book in the celebrated English tradition of elementary mathematical texts, placing great emphasis upon, and replete with, manipulative problems, the volume is a success." *Ivan Niven.*

Finch, James Kip. Trends in engineering education. 140p. 1948. Columbia Univ. Press, New York, $2.

Chemical engineering, Nov. 1948, p.343. 1⅞ col.

"Recognizing the fact that 'continual and never-ending change and improvement is the normal atmosphere of engineering education,' this book records the educational philosophy and experience of the School of Engineering of Columbia University . . . Dean Finch has written a challenging and thought-provoking document that will be of interest to teachers, students, and industrialists—in short, to all who are concerned with engineering education, its product, and its application." *H. C. Parmelee.*

Power generation, Nov. 1948, p.134. ⅜ col.

"Practicing engineers as well as educators will be interested in this very enlightening little book on engineering education. As in many other branches of human endeavor, change is the normal atmosphere in engineering education. Today in particular engineering education faces a transition and a challenge to greater service. Two problems especially pose questions of policy with which many schools have had little experience. The purpose of this book, therefore, is to present these solutions as they have been evolved through the pioneering work of the Columbia School of Engineering. One problem has been the move to broaden engineering curricula to include the basic subjects of a general education. The other, and even more important, is the challenge our schools face today in advancing both the fundamentals and the applications of engineering science."

Frear, Donald E. H. Chemistry of insecticides, fungicides, and herbicides. Ed.2, rewritten. 417p. 1948. Van Nostrand, New York, $6.

Journal of the American Oil Chemists' Society, Oct. 1948, p.33. ½ col.

"The development of 'DDT' the gamma isomer of hexachlorocyclohexane and 2,4-dichlorophenoxy acetic acid, together with the enormous amount of research on economic poisons stimulated by the requirements of war, has necessitated the preparation of this . . . edition of Dr. Frear's well-known book . . . Almost completely rewritten in the light of the new information, and . . . changed to follow chemical rather than biological lines. The chapter on herbicides is a new feature . . . The most serious criticism which the reviewer has to offer is his opinion that the index does not give adequate coverage of the wealth of information contained in the book. Fortunately this difficulty is partially compensated by careful organization of the subject matter and by a detailed table of contents." *H. M. Teeter.*

Froman, Lewis A. Introduction to business. 611p. 1948. Irwin, Chicago, $4.50.

Journal of business education, Oct. 1948, p.49. ⅛ col.

"Planned for a first course in business which is often required of all students in a collegiate school of business. The content of this course differs widely in different schools and even as given by different instructors in one school. One of the basic criticisms of the course is that it is merely an abbreviation of the specialized courses and thus results in repetition later on. This book has been planned to result in a minimum of duplication with later specialized courses . . . The book steers clear of technical processes and methods but the eventual need and use of such comprehension is emphasized. Thus while the book is an introduction to business, it does not trespass significantly upon the understandings to be developed later. In this sense, the book is a real contribution for this problem of duplication is widely criticized not only by teachers but by students."

Gaddum, John H. Pharmacology. Ed.3. 520p. 1948. Oxford, New York, $8.

Manufacturing chemist and manufacturing perfumer, Oct. 1948, p.455. ¾ col.

"Although this book is written primarily for medical students, it has much of value and interest for all those engaged in the manufacture of pharmaceutical products . . . The claim that it is now up to date to the beginning of 1947 is justified by the inclusion of such drugs as streptomycin, BAL, folic acid and rutin . . . One criticism is the printing of trade names as generic names, a practice which appears to be increasing. This is quite misleading and wrong for several reasons. Trade names should invariably be printed either in quotes or in italics. However, this is a minor point which does little to detract from the excellence of this book, an excellence matched by the quality of the printing and indexing." *John Rae.*

Gibbs-Smith, C. H., ed. New book of flight. 288p. 1948. Oxford, New York, $5.

American aviation, Nov. 1, 1948, p.46. ⅛ col.

"A compilation of 18 disassociated articles on all phases of aviation including airships, rockets, jet propulsion, radar, air stamps, aeromodelling, aeronautical careers, etc. Written in simple style, the book deals in generalities which makes it suitable for laymen. The section on pioneers should prove of interest to everyone associated with aviation. Although emphasis is primarily on British developments, due credit is given to other activities. One chapter is devoted to arcraft of the world and presents current data and 150 photos of new type aircraft."

Gillespie, D. T. C., comp. Wool wax. 96p. 1948. Hobart, Washington, D. C., $5.

American dyestuff reporter, Nov. 1, 1948, p.726. ⅛ col.

"Presents with remarkable completeness a subject which, in the literature has been unusually scanty on the properties and composition of wool wax, lanolin, cholesterol, and the many derivatives and uses of the by-product of sheep's fleece. Wool wax will prove of considerable interest to wool processors, the textile industry, pharmaceutical, cosmetic and soap manufacturers, designers of wool wax processing machinery, the leather and paint industries, and those chemists who now or soon will be doing research in this field. Not the least im-

portant section of the book is devoted to a listing of 422 literature references, perhaps the most comprehensive compilation on this subject ever made."

Textile world, Oct. 1948, p.248. ⅝ col.

"This book gains a niche for itself due to its technical thoroughness and large number of detailed explanations of the end-products derived from the basic wax . . . Compiled . . . for the Commonwealth of Australia, and . . . should prove of considerable interest to wool processors; the textile industry; pharmaceutical, cosmetic and soap manufactures [sic]; designers of wool-wax processing machinery; the leather and paint industries; and chemists doing research in these fields. The last 36 pages . . . are devoted to a listing of 422 literature references, perhaps the most comprehensive compilation on this subject ever made. Data are given on the chemical properties of wool wax, uses and derivatives, purification of wool wax by a number of processes, wool-wax acids, and many other technical aspects."

Glasoe, G. N., & Lebacqz, J. V., ed. Pulse generators. 722p. 1948. McGraw, New York, $9. (M.I.T. radiation laboratory series, v.5.)

Proceedings of the I.R.E., Nov. 1948, p.1396. ⅘ col.

"The title . . . is somewhat misleading, for the reader might expect a discussion of the many types of oscillators used for the generation of pulses; whereas the book might be more aptly titled, 'Magnetron Modulators,' for this is the true subject of the book . . . The subject material is covered well and in a most comprehensive manner. For a thorough understanding of the circuits and networks developed in this book, a working knowledge of Laplace transforms is necessary; however, all the more important circuits are considered from a physical and practical standpoint. The book thus has appeal both for the rigorous theoretician and the practical designer . . . The most informative and complete treatment of magnetron modulators and high-power pulse generators published to date . . . Truly stands as a monument to the hundreds of scientific workers, engineers, and others whose work this book describes." *William L. Mraz.*

Gross, Martin, & Greenberg, L. A. The salicylates; a critical bibliographic review. 380p. 1948. Hillhouse Press, 432 Temple St., New Haven, Conn., $6.

Drug & cosmetic industry, Oct. 1948, p.523. ½ col.

"Reviews all the fundamental data on every aspect of the salicylates as derived from analysis of the pertinent literature in all languages . . . The bibliography of over 4,000 titles is one of the most thorough compilations on a single subject ever undertaken. There are two keys to this enormous literature. First, reference citations within the text. These enable the reader to check the reviewers' evaluations in the original sources. Second, under subject headings, which appear at the end of most chapters and after individual sections in Chapter V. This review should serve as an indispensable reference tool for all research workers studying analgesic drugs generally and the salicylates in particular."

Harrison, G. R. See Applied physics.

Hartman, Gerhard. See Bachmeyer, Arthur C., & Hartman, Gerhard, ed.

Hawley, Ralph C., & Stickel, P. W. Forest protection. Ed.2. 355p. 1948. Wiley, New York, $4.50.

Fire engineering, Oct. 1948, p.757. ⅝ col.

"An unusually complete book covering all phases of forest protection . . . Treats such sources of forest injury as fire, on which the greatest emphasis is placed, insects and diseases. The authors also discuss regulation of harmful plants, domestic grazing animals, wildlife and atmospheric agencies. Stressing the principles underlying forest protection rather than giving detailed instructions for carrying on specific types of work, the authors concentrate on eliminating an injurious agency before it can do any harm and on developing a forest that is inherently capable, so far as possible, of preventing damaging action from starting."

Nature magazine, Nov. 1948, p.451. 9 l.

"This textbook is the most complete in existence on the subject of forest protection. Forest fires and their effects, causes, character, suppression and pre-suppression constitute the major portion of the volume. Protection against injurious plants, insects, over-grazing, injurious wildlife and atmospheric agencies are, however, all included."

Hitchcock, Louise S. Applied retailing. 222p. 1948. Prentice-Hall, New York, $2.24.

Journal of retailing, Oct. 1948, p.128. ⅘ col.

"Developed for use in secondary schools taking part in the distributive education program. Specifically, the manual is set up to follow the student step by step from the beginning of his co-operative store experience to the end of it . . . The book is excellently done from the standpoint of both general organization of the material and the technique of questioning. There are several over-all features, however, that give it an even greater degree of excellence as a teaching device in this particular field." *Festus J. Viser.*

Hodge, W. V. D., & Pedoe, D. Methods of algebraic geometry. v.1. 440p. 1947. Macmillan, New York, $6.50.

Journal of applied physics, Oct. 1948, p.959. 10 l.

"The first part . . . is devoted to the basic notions of pure algebra and the development of the theory of matrices. Book II, the major portion of the volume, discusses the algebraic and synthetic definitions of projective space, through Grasman coordinates, collineations, and correlations. Complete proofs are given for most theorems; however, in a number of special cases the proofs are not noted in detail when sufficiently simple."

Science progress, Oct. 1948, p.731. ⅘ p.

"The first of an important new text on algebraic geometry which will probably have considerable influence on the teaching of the subject . . . Divided into two books, the first of which lays a foundation of modern algebra suitable for the geometry which follows. English readers, whose gift of tongues is less than pedantry requires, will be glad that the authors have made available this section of algebra . . . Book II may be described as dealing predominantly with the geometry associated with

linear equations or linear dependence . . . Volume II is to deal with the theory of algebraic varieties and with the study of certain loci which arise in many geometrical problems." *J. W. A.*

Jackson, L. C. Low temperature physics. Ed.2, revised. 130p. 1948. Methuen, London, 6s. net. (Methuen's monographs on physical subjects.)

Nature, Oct. 2, 1948, p.510. ⅔ col.

"The treatment . . . combines very successfully an account of the general principles of each topic discussed with just sufficient practical detail and numerical data to make the description come alive; theoretical results are not usually derived in detail but enough is said to give a qualitative idea of where they come from, and references to more detailed treatments are indicated . . . A wise choice has been made both of subjects which are of interest as topical problems and those needed as a background to appreciate the significance of the latest work . . . Not only may the book be warmly recommended as an excellent introduction for the final honours student or the intending research student, but it may also be read with benefit as a well-balanced survey by those already working in the field." *D. Shoenberg.*

Jauncey, George E. M. Modern physics. Ed.3. 561p. 1948. Van Nostrand, New York, $6.

Journal of scientific instruments and of physics in industry, Oct. 1948, p.365. ⅓ col.

"The level of difficulty of this third edition is intermediate between that of the first-year course in college physics and the advanced undergraduate courses in physics. The prerequisites are one year of college physics and one year of college mathematics."

Philosophical magazine, Oct. 1948, p.827. ⅔ p.

"Written to meet the needs of the U.S.A. physics student who has already had a grounding in classical physics . . . It has many attractive features, but also a number which depart somewhat from usual British practice . . . Beautifully illustrated with a profusion of good diagrams, and will be useful in our libraries." *S. Tolansky.*

Jones, E. L. See Applied physics.

Jordan, Louis. See Applied physics.

Judge, Arthur W. Engineering materials. Ed.2. v.3: Testing of materials. 624p. 1947. Pitman, London, 40s.

Aeroplane, Oct. 15, 1948, p.516. 1¼ col.

"The price of 40s., although high for the student's purse, is certainly not excessive by present-day standards. The paper, printing and reproduction of graphs and photographs are all first-rate and the index is comprehensive. Numerous references, mainly British and American but some German, show the sources from which the information has been obtained. It is some measure of Mr. Judge's wide range of study to point out that the dates of his references range from 1822 to 1945, which is also the date given at the end of the preface . . . Can be confidently recommended to engineers in general as a comprehensive description of the machines and methods used in materials testing. The occasional allusions to specialized aircraft questions are, however, not up to the general standard of the rest of the work." *H. A. M.*

Kaberlein, Joseph J. Triangulation short-cut layouts. 300p. 1948. Bruce Pub., Milwaukee, Wis., $5.

Refrigerating engineering, Nov. 1948, p.414. ¼ col.

"Written to serve as a text and guide to the men in the sheet-metal field who are desirous of learning modern methods in patterns' layout by the use of triangulation . . . Arranged for ease in following the layout methods recommended. There are 151 plates, each accompanied by a short explanatory text. All of the information necessary to make the layout is contained on the plate and text—it is not necessary for the reader to refer to other parts of the book."

Kari, Alexander. Design and cost estimating of all types of merchant and passenger ships; a treatise. Ed.5, revised. 384p. 1948. Technical Press, Surrey, England, £2 10s. net.

Institute of Marine Engineers, notices, Oct. 31, 1948, p.6. ½ col.

"The utmost care has been exercised by the author in the presentation of the text and in the preparation of the Tables of Coefficients, all of which have been derived and collated through years of personal experience with the design of merchant ships in all its various aspects."

Shipbuilder and marine engine-builder, Oct. 1948, p.645. 1⅛ col.

"In the period immediately following the conclusion of hostilities, Mr. Kari found opportunity to undertake a thorough revision of this well-known treatise, the last edition of which . . . appeared in 1937. In particular, Mr. Kari has been able to draw on sources of information, which have since become available, to enlarge certain sections dealing with matters brought into great prominence in recent years, and the data in regard to labour cost in man-hours should prove especially helpful in connection with cost estimates in these days, when shipbuilding costs are subject to so much uncertainty . . . Described as a treatise on methods of arriving at the correct form, proportions and power necessary to achieve minimum capital cost with maximum efficiency in service. It appears to us that Mr. Kari's book achieves its purpose in an informed and interesting fashion, and we believe that the new edition will be warmly welcomed by all interested in the advancement of the science and art of shipbuilding."

Kaye, George W. C., & Laby, T. H. Tables of physical and chemical constants. Ed.10, revised. 194p. 1948. Longmans, New York, $5.50.

Chemical age, Oct. 9, 1948, p.498. ⅝ col.

"The contents . . . are devoted to general physics and astronomy; heat; sound; light, including spectroscopy; electricity and magnetism; X-rays; atoms and ions; chemistry and geology; isotopes; moments of inertia; and mathematical tables. This volume is calculated to be extremely useful to students as well as to industrial workers. The comprehensive index gives good guidance through the numerous

sections of the work, and in the case of many of the divisions there is given a brief résumé containing references to books and original papers which may profitably be consulted."

Philosophical magazine, Sept. 1948, p.745. ¼ p.

"The passage of 37 years since the first edition has left 'Kaye and Laby' almost as firmly established in every physical laboratory—and as necessary—as the furniture. To discuss the usefulness of this tenth edition would therefore verge on impertinence. It is sufficient to note the continued vitality of the book despite a steady increase of girth—the ninth edition added some 20 pages, the tenth adds another 13, and the price increases in similar proportion . . . One section—that on optical glasses—has been rewritten. The style of the ninth edition is retained." *J. P. A.*

Kroeber, Alfred L. Anthropology. Ed.2, rewritten. 856p. 1948. Harcourt, New York, $7.50.

Natural history, Oct. 1948, p.343. ½ col.

"Although the general pattern is the same . . . its content has been largely rewritten in the light of new discoveries, recent theory, and the author's own development. The four-fold division of anthropology into physical anthropology, linguistics, ethnology, and archaeology are recognized, and each field is covered seriatim. The treatment of each of these subdivisions is remarkably well rounded as one would expect from the erudition of the author, and, in their totality, they present the best introduction I know to the subject of anthropology." *Harry L. Shapiro.*

Lebacqz, J. V. See Glasoe, G. N., & Lebacqz, J. V., ed.

Lefèvre, R. J. W. Dipole moments; their measurement and application in chemistry. 117p. 1948. Methuen, London, 5s. net.

Chemical age, Oct. 16, 1948, p.532. ½ col.

"The student and research worker in physical chemistry will find in this book expositions by an author who is actively engaged in research work on this subject and who, besides, was professor of chemistry at the University of Sydney . . . Divided into six chapters, dealing with: dielectric polarisation and the calculation of dipole moments; practical methods for the measurement of dipole moments; solvent effects in dipole moment measurements; dipole moments and molecular structure; intramolecular rotation and flexibility of molecules; and some anomalous dipole moments."

Ley, Willy. The lungfish, the dodo and the unicorn; an excursion into romantic zoology. Revised and enlarged edition. 361p. 1948. Viking, New York, $3.75.

Frontiers, Dec. 1948, p.55. ⅝ col.

"The contents of this book is well indicated by the title . . . This is a book for the permanent shelf and especially for parents who have to answer the questions of their children . . . The age level is indefinite—it can be read and enjoyed by the middle-teen agers and nonogenarians."

Nature magazine, Nov. 1948, p.453. ⅛ col.

"In it are included fascinating discussions of animals of myth, animals that are now extinct and almost mythical, and animals that are living relics of the past . . . Divided into three parts on this basis, and it is all written for the lay reader who enjoys a different sort of zoological excursion."

Leyson, Burr W. Wings around the world; the story of American international air transport. 192p. 1948. Dutton, New York, $3.

American aviation, Aug. 15, 1948, p.46. ⅛ col.

"As the story of the pioneering and development of Pan American World Airways, this volume is a fairly creditable product. But under the cloak of its sub-title . . . the book is quite out of focus and falls far short of telling the real story of international air transport from the war period on to the present time. Either Capt. Leyson has no real understanding of the technical achievements of American aircraft and American air leaders, or he purposely wrote a one-way book. His coverage of the field up to the war is good and on firm ground. But if this were to be the sole source of anyone's knowledge of America in the air internationally from the war period on, the reader would indeed be poorly informed."

Aviation maintenance & operations, Oct. 1948, p.74. ¼ col.

"The story of the development of America's great network of world-wide airways—from the pioneering days of the 1920's to the magnificent, far-flung lines of today—told by an outstanding expert in the field of aviation . . . Shows how American enterprise overcame apparently insurmountable obstacles in building our global air services; how an efficient and safe air transportation system to Caribbean and Latin-American points was first established; how the Pacific and then the Atlantic were spanned. Here is the story of how the Army's Air Transport Command was formed, and of how, out of the intricate, world-wide facilities developed by ATC—a tremendous achievement—there emerged the full-scale services connecting with all parts of the world."

Longwell, Chester R., and others. Physical geology. Ed.3, revised. 602p. 1948. Wiley, New York, $5.

Earth science digest, Oct. 1948, p.25. 1 col.

"The authors believe that understanding the basic concepts of physical geology is more important than memorizing a large number of details. In keeping with this idea, they have removed much of the purely factual material—such as lists of the properties and characteristics of minerals—from the body of the text and placed it in the appendixes . . . The three authors make an unusually good team of writers for a book on geology. Their teaching and field experience has been in different branches of the subject: Professor Longwell in general and structural geology, Professor Knopf in petrology, and Professor Flint in geomorphology. Most of the illustrations from the second edition have been revised or replaced by new ones. The total number has been increased from 341 to 365."

Natural history, Nov. 1948, p.389. ¾ col.

"In spite of the fact that it is written primarily for students in the first college geology course, the . . . book is more readable and far more authoritative than the majority of so-called popular books on geology. The authors have written for nontechnical readers, and all

science students will want a copy for their reference libraries . . . The authors and their publisher are to be congratulated for this fine book." *Norman D. Newell.*

Manley, R. G. Fundamentals of vibration study. Ed.2, revised. 156p. Chapman & H., London, 15s.

Railway gazette, Oct. 29, 1948, p.487. ½ col.

"The author of this valuable introductory guide to vibration theory states that the book embodies the subject-matter of a course of lectures which he delivered to the Vibration Department of the de Havilland Aircraft Company . . . Should be of especial value to those who wish to gain sufficient grounding in this highly specialised subject to enable them to study the more advanced technical papers which appear in the transactions of learned societies. The 53 illustrations are very clear, and the publishers have produced the book extremely well."

Molloy, E., ed. Electroplating and anodising. Ed.4, revised. 232p. Newnes, London, 7s. 6d.

Electrical times, Oct. 21, 1948, p.484. ¼ col.

"Includes an account of the periodic reverse current method of plating recently developed in America and claimed to reduce polishing costs and improve quality. The principles of electroplating and the methods of electrical supply are described . . . and details of the technique appropriate to several metals are set out. This useful and up-to-date review of plating practice also includes methods of testing completed deposits."

Morrison, Gordon. Quick freezing and family food gardening. 220p. 1948. Ungar, New York, $2.75. (Stephen Daye Press Bk.)

Quick frozen foods and the locker plant, Oct. 1948, p.126. ½ col.

"Designed as a practical handbook for locker patrons and home freezer owners on how to raise and prepare quality foods for freezing . . . Written in simple, clear language and covers the entire process from the cultivation, and careful selection of the raw produce through the correct preparation wrapping and freezing procedure to the planning of diets and directions for cooking and serving the frozen foods . . . Should be of interest to any locker patron interested in getting the most out of her locker and home cabinet and at the same time reducing her food budget."

Murphy, J. S. Production engineering. 226p. 1948. Cassier, London, 12s. 6d. net.

Electrical times, Oct. 28, 1948, p.510. ¼ col.

"Sets out general principles underlying factory organisation in a clear and concise manner. The Author has based this work on his experience in the production field, but has kept the discussion general, so that the facts are not limited in application to any one trade. All the steps from the original planning of the production programme to the final production control organisation are dealt with, while the estimating and costing and time and motion study also receive attention."

Mechanical world, Oct. 29, 1948, p.494. ¾ col.

"Few books 'primarily intended for the use of students' are of any real value to the practising engineer, but the present volume is certainly an exception to that rule. It is not merely an academic review of the subjects associated with production engineering and industrial administration, but a clear, concise and effective consideration of most aspects of factory organisation . . . The book bears the hallmark of a practical engineer who has gained his experience the hard way . . . It is not so much the practical side that gives this work a place high above the contemporary American publications, to which the harassed executive has previously had to refer, but its commonsense approach to all problems." *R. L. T.*

Noyes, William A., ed. Chemistry; a history of the chemistry components of the National Defense Research Committee, 1940-1946, by R. Connor [and others]. 524p. 1948. Little, Boston, $6. (Science in World War II; Office of Scientific Research and Development.)

Chemical and engineering news, Oct. 25, 1948, p.3220. 1 col.

"Tells the stories of the chemistry, chemical engineering, absorbents and aerosols, explosives, and miscellaneous weapons divisions and of the Tropical Deterioration Administrative Committee . . . An enthralling account, replete with factual information, of some major revealable chemical accomplishments achieved under the aegis of NDRC . . . Emphasizes the immensely important part played by the chemist in winning the war, and fortunately, although intended primarily for chemists, much of it will be intelligible to other scientists and to the educated layman. The chemist should, however, note that great though these developments were, they drew upon a backlog of fundamental, pure research. This must needs be replenished if we are to retain our position of power . . . Should be read by every scientist." *R. Stuart Tipson.*

Obert, Edward F. Thermodynamics. 571p. 1948. McGraw, New York, $5.50.

Combustion, Sept. 1948, p.57. ⅔ col.

"Many textbooks have been written on the subject of thermodynamics, but this one has been made more complete than the average with a view to extending the coverage beyond the usual undergraduate requirements, without, however, in any way sacrificing the fundamentals . . . Despite the employment of considerable mathematics in places, the explanations are clear and the sketches are both simple and well chosen. In fact, most of the text should be readily comprehended by the average practicing engineer, even though he may be a bit rusty in his thermodynamics. An extensive appendix contains numerous tables, curves and charts."

Military engineer, Nov. 1948, p.538. ⅔ col.

"Full, comprehensive treatment of fundamentals characterizes this new engineering textbook which the engineering student can use as a test in a first course in thermodynamics and heat power. Yet it is so extensive that it is suitable for heat power engineering courses, supplemented by periodicals and standard reference works used in industry."

Parish, Henry J. Bacterial and virus diseases. 168p. 1948. Williams & Wilkins, Baltimore, $2.75.

Manufacturing chemist and manufacturing perfumer, Oct. 1948, p.454. ⅘ col.

"The title of this manual might imply that the work is a description of bacterial and virus diseases from the purely medical and therapeutic viewpoints. Actually, the contents of this excellent publication . . . concerns itself as much with the province of the laboratory bacteriologist as that of the therapeutist . . . Will prove a useful and informative addition to the technical library of research workers and technicians who are engaged in commercial production of antisera, toxoids and tuberculins . . . Junior students of bacteriology—to whom practically the whole of this book will appeal by its conciseness and comprehensibility—will appreciate the historical aspects of immunology as summarised in the final chapter . . . Dr. Parish and his publishers are to be congratulated on cramming so much readable bacteriological 'culture' into so small a 'medium' as this concise handbook." *A. A. Bradley.*

Parker, George H. Animal colour changes and their neurohumours. 377p. 1948. Cambridge Univ. Press, London, $6.50.

American scientist, Oct. 1948, p.584. ⅘ col.

"Beginning with a description of animal color changes, the author treats the color changes in cephalopods, crustaceans and vertebrates. Under the last heading he deals with fishes, amphibians and reptiles. Final chapters consider the development and growth of vertebrate chromatophores [sic], the genetics of vertebrate chromatophoral systems and the special activities of vertebrate chromatophores."

Phelps, Earle B. Public health engineering. v.1. 655p. 1948. Wiley, New York, $7.50.

Heating and ventilating, Oct. 1948, p.145. ½ col.

"With the thought that the public health engineer is becoming an increased factor in the field of public health, the authors have attempted to bring into one volume the underlying principles of environmental sanitation. Because of the large field covered, it was not practical to present too much material on any one phase. For example the broad science of heating, ventilating and air conditioning is covered in a chapter of 32 pages. However, the book is recommended for an overall picture."

Public works, Oct. 1948, p.63. ⅓ col.

"A remarkable book by a remarkable man . . . Written primarily to teach municipal and civil engineers something about sanitary science—what to design and build, and why, in order to protect public health."

Sewage works engineering, Oct. 1948, p.558. ½ col.

"A valuable book written by an outstanding authority on the entire field of environmental sanitation, in collaboration with Harry D. Pratt, U.S.P.H.S. authority on insects and insect control; and Clarence J. Velz, authority on water contact . . . Should be a practical addition to the library of all public health engineers because it is written with full recognition that the function of the public health engineer is becoming increasingly complex. The authors have approached the problem through chemistry and the biological sciences, rather than through engineering. Written primarily to teach municipal and civil engineers, in the light of present-day sanitary science, what to design and build and why in order to protect public health most effectively, 'Public Health Engineering' covers the entire field of environmental sanitation. The approach, through chemistry and the biological sciences, makes it valuable also for medical health officers."

Pickering, James S. The stars are yours. 264p. 1948. Macmillan, New York, $3.95.

Popular astronomy, Nov. 1948, p.509. ¾ p.

"This book . . . is concerned with astronomy. It is not limited to a consideration of the stars only but deals also with the known facts related to the planets, comets, asteroids, and meteors. After a careful description of these objects . . . the author widens his outlook and explains the content of such terms as ecliptic, constellations, galaxy, nebulae, etc. Bound in the text is a 24-page form of photographs of astronomical subjects ranging from a total eclipse of the sun to some of the distant nebulae. These photographs . . . are accompanied by extensive legends which enable the reader to understand the photographs. Another commendable feature . . . is a series of 24 constellation charts, one for each hour of right ascension, each one starting from the north star, or Polaris, which is centrally placed at the top. These charts are accompanied with text listing and describing the celestial objects to be found in them . . . Later in the book the author describes the southern constellations, basing the descriptions upon the chart of the southern sky, which is printed at the end of the book." *C. H. G.*

Pigman, W. W., & Goepp, R. M., jr. Chemistry of the carbohydrates. 748p. 1948. Academic Press, New York, $10.80.

Chemical and engineering news, Nov. 1, 1948, p.3297. ⅘ col.

"There has been a great need for a modern treatise on the 'Chemistry of the Carbohydrates,' particularly in the English language. Excellent works on starch and cellulose have appeared recently, but the sugars, their derivatives and reactions, and the oligosaccharides and polysaccharides other than starch and cellulose have not been brought up to date until now . . . Graduate students, research chemists, and all interested in carbohydrate chemistry should find this carefully organized and well documented treatise instructive as well as valuable as a reference volume." *T. H. Newkirk.*

International sugar journal, Nov. 1948, p.301. ⅘ col.

"May be said to provide an excellently full and well-arranged introductory survey of the chemistry of the carbohydrates. As a whole, it is well up-to-date. It brings together much hitherto unassembled material, and provides the reader with ample references with which to supplement his further reading. It considers many subjects from the standpoint of products and of the reactions involved, an approach which will make it serviceable to those who may not be well read in the organic chemical field. Our feeling, after a careful study of this new addition to carbohydrate literature, is that it may well come to be regarded as the standard introductory textbook to the subject. It has admirably complete subject and author indexes,

which afford evidence enough of the care with which it has been compiled."

Pigman, W. W., & Wolfrom, M. L., ed. Advances in carbohydrate chemistry. v.3. 424p. 1948. Academic Press, New York, $8.50.

Archives of biochemistry, Nov. 1948, p.346. 2 p.

"Maintains the high standard which characterize the first two volumes. No praise can be too high for the initiative of those who brought forth this series of publications. They have made available a wealth of material for the stimulation, guidance, and help of specialists and non-specialists alike . . . The authors of this volume are to be congratulated for presenting their topics in an inspiring and well-integrated fashion. The compilation and classification of special knowledge in the several branches of carbohydrate chemistry will save future students and researchers much time. No investigator who deals with carbohydrate chemistry can afford to be without this book." *Horace S. Isbell.*

Chemical and engineering news, Oct. 4, 1948, p.2987. ⅔ col.

"The high standards of the contributions to the first two volumes of the series have been maintained in the present treatise. Most of the chapters are unique and represent a well collated and evaluated survey of the existing literature . . . Valuable addition to the library of the chemist and research worker in the carbohydrate field. The whole series promises to become our standard reference on the subject, and the editors, executive committee, and contributors should receive every encouragement for this worthwhile undertaking." *Robert S. Aries.*

Preidel, Edward E. Intermediate hydrostatics. 247p. 1948. University Tutorial Press, London, 9s. 6d. net.

Mechanics, Oct. 8, 1948, p.417. 10 l.

"Directed mainly to science and engineering students in schools and universities, this text book on the study of the equilibrium of fluids at rest and forces maintaining that equilibrium will hardly appeal to the layman. Elementary calculus is used in the many examples given and the book is claimed to cover the requirements in Hydrostatics of the various Higher School Certificate and University Scholarship and Intermediate Degree examinations."

Read, John. Direct entry to organic chemistry. 268p. 1948. Methuen, London, 4s. 6d.

Chemistry & industry, Oct. 16, 1948, p.669. ½ col.

"It is the purpose of this volume to give some understanding of the language and scope of organic chemistry without assuming any prior knowledge, on the part of the reader, of chemistry or even of the scientific method and all it involves. The author has set out to give something of value and has been careful to avoid the pitfalls both of text-book style and of the more lurid 'back-room boy' stuff . . . The book is, as it must be if it is to achieve its object, readable and despite the wide variety of topics dealt with, there are only one or two places where any sense of discontinuity is felt. Typographical errors are rare, but the formulæ of veronal and ætioporphyrin seem to have met with an accident. The index makes the book more useful for reference and the list of books for further reading is well chosen." *V. J. W.*

Reed, Myril B. Alternating-current circuit theory. 603p. 1948. Harper, New York, $5.50. (Electric power series.)

Electronics, Oct. 1948, p.271. ½ col.

"Intended as a textbook for the third-year engineering course in a-c theory. Its content was developed over a ten-year period of alternate writing and classroom testing, to provide a basic text that would serve as a background for all the major fields of specialization in electrical engineering . . . Many problems are provided, including some that are intentionally made too long or too difficult for the usual homework assignment; these require extra time or extra help from the instructor." *J. M.*

Relton, Frederick E. Applied differential equations. 264p. 1948. Blackie, London, 20s. net.

Engineering, Oct. 8, 1948, p.340. 1 col.

"Professor Relton's experience of teaching in a faculty of engineering has kept him in touch with practical needs and enabled him to present, in a directly accessible form, the minimum of knowledge concerning differential equations required for tackling technical problems."

Reyner, J. H. Cathode ray oscillographs. Ed.3, revised. 186p. Pitman, London, 8s. 6d. net.

Electronic engineering, Oct. 1948, p.338. ⅝ col.

"The author's original aim was to provide a groundwork of theory and practice for users of the tube, and by drawing on his own considerable experience in the field, he has done wonders in the space at his disposal. The section on synchronising is an excellent example of lucid explanation, and, so far as the reviewer is aware, has not appeared in any other book on the subject. It is a matter for regret that this edition . . . is marred by the non-uniformity of the circuit diagrams . . . It would be worth re-drawing the diagrams for the next edition to improve the appearance of an otherwise well-produced book." *G. P.*

Ricketts, Edward F., & Calvin, Jack. Between Pacific tides. Revised edition. 365p. 1948. Stanford Univ. Press, Stanford Univ., Calif., $6.

Nature magazine, Nov. 1948, p.451. ½ col.

"An account of the habits and habitats of some five hundred of the common and conspicuous invertebrates of the seashore on the Pacific between Sitka, Alaska, and northern Mexico. As Steinbeck says in his foreword: 'There are good things to see in the tidepools and there are exciting and interesting thoughts to be generated from the seeing.' This is the book to introduce one to these forms, and certainly, to generate those thoughts."

Rider, John F., and others. Television; how it works. 203p. 1948. John F. Rider, New York, $2.70.

General Electric review, Oct. 1948, p.57. ½ col.

"Here, in clear language easily understood by the serviceman, the radio amateur, and those acquainted with broadcast radio, the principles of the television receiver are explained. General

aspects of the complete television system are also presented. The section on antennas would be very helpful in selecting the type of and the location for the receiving antenna. The theory of the circuits found in most television receivers is presented in great detail . . . An interesting nonmathematical exposition . . . Provides excellent background for the serviceman and the experimenter." *Allen E. Smoll.*

Radio-craft, Sept. 1948, p.94. ⅛ col.

"[The] authors present television theory so it is easily understood by anyone with a knowledge of basic radio. There are 12 chapters covering television systems, television signals, antennas, r.f. circuits, audio and video channels, sync and sweep circuits, picture tubes, power supplies, and TV receiver servicing . . . Well illustrated with drawings and partial schematics showing various types of circuits found in the more common TV receivers." *R. F. S.*

School science and mathematics, Nov. 1948, p.668. ½ p.

"Designed to give students a good start in the study of television receivers. Students are expected to know fairly well the elementary ideas of electricity and radio, and to have some knowledge of sound and light . . . Use of the book . . . may be taken up alone or with a class, but as with other practical subjects based so firmly on the principles of science, progress is fundamentally dependent upon the individual and his effort. The many diagrams, pictures, and graphs are well made and amply labeled. The language is clear and precise. The book will go far in aiding in a mastery of the subject, but so small a text cannot give all the practical man needs to know." *G. W. W.*

Royal, John F., ed. Television production problems. 179p. 1948. McGraw, New York, $2.50.

Broadcasting, Sept. 20, 1948, p.16. 3⅝ col. including an illustration.

"To help the novice in the field, and as a reference for all people interested in video, John F. Royal, vice president of NBC, compiled . . . [this] book . . . A collection of 'lectures' given by top NBC personnel in connection with the Columbia U. course in the programming phases of video. The chapters . . . are by Richard P. McDonagh, manager of the script division of NBC; N. Ray Kelly, manager of production facilities for NBC Television; Robert J. Wade, art director of NBC Television, and Edward Sobol, NBC Television producer."

Schaaf, William L., ed. Mathematics, our great heritage. 291p. 1948. Harper, New York, $3.50.

Scientific American, Nov. 1948, p.57. 7½ col. including another review and illustrations.

"William L. Schaaf of the education department at Brooklyn College has gathered a number of interesting essays on the nature and cultural significance of mathematics. Each essay is written by a mathematician of recognized academic standing and comes under one of several headings such as: The Creative Spirit, Wellsprings, The Handmaiden, Humanistic Bearings." *James R. Newman.*

Scientific monthly, Nov. 1948, p.381. 1 col.

"Contains a collection of sixteen essays by different authors, all of which have been previously published. These essays deal with the nature and cultural significance of mathematics. They have been selected and edited by Dr. William L. Schaaf, who has contributed a preface to the book and interesting introductory remarks to each of the essays . . . There is much of value in this collection of essays, and the book can be recommended to those who are interested in mathematics." *Paul R. Heyl.*

Scoville, Warren C. Revolution in glassmaking. 398p. 1948. Harvard Univ. Press, Cambridge, Mass., $5.

Glass, Sept. 1948, p.272. ⅔ col.

"Mr. Scoville deals chiefly with the period 1880-1920, as it was during this time that the foundation was laid for the change over from hand production to the almost complete mechanisation of the industry to which we are now becoming accustomed . . . Prepared under the direction of the Committee on Research in Economic History, Social Research Council, in collaboration with the Committee on Technological Change, Massachusetts Institute of Technology, which gives additional proof as to the authenticity and correctness of the data and information it contains . . . To the younger members of the industry the volume is an interesting and important record of achievement, but the thanks of the older members and particularly those who were fortunate enough to know Libbey, Owens, and many of the others, are due to Mr. Scoville for the work involved in obtaining and collating the details he gives us."

Glass industry, Sept. 1948, p.520. ½ col.

"Liberally sprinkled with tables and charts and photographs . . . *Revolution in Glassmaking* comprises a fascinating history of the glassmaking industry between 1880 and 1920 . . . Authoritative and thoroughgoing, and should prove absorbing to business men, economists and historians. It encompasses not only fine details of technology (directly responsible for the development of glassmaking, particularly from 1880 on) but goes into the metamorphosis of labor relationship, labor costs, factory management, output, price, and even into earnings and dividends paid."

Seegers, Walter H., & Sharp, E. A. Hemostatic agents; with particular reference to thrombin, fibrinogen and absorbable celluose. 131p. 1948. C. C. Thomas, Springfield, Ill., $4.50.

Science, Nov. 5, 1948, p.515. ½ col.

"Recent rapid developments in the field of blood clotting have made available for the first time highly potent agents for stopping hemorrhage and bleeding. These substances have many possible applications. Associated with this development are important points of technique, descriptions of which are scattered through the literature or have not been published. Hence, there is a definite need for a simple description of these materials and their uses. This small book appears to meet this need admirably. The authors have been actively identified with many of the developments in this field . . . Will be of greatest value to those with surgical interests, with its immediate applications to neurosurgery, plastic surgery, gastroenterology, rhinology, urology, and dentistry. As a summary of recent work which has transformed theoretical terms in textbooks of biochemistry and physiology to powerful tools in the hands of the clinician, it will be of interest to medical scientists generally." *L. B. Jaques.*

Shrock, Robert R. Sequence in layered rocks. 507p. 1948. McGraw, New York, $7.50.

Nature magazine, Oct. 1948, p.444. 10 l.

"Written for the field geologist and directed to solving the important problem of determining the order of succession—top and bottom—and the nature of the structure in folded layered rocks. It is, of course, a volume for the advanced geologist, but is of world-wide application. Generously and expertly illustrated, it is an important and unique addition to geological literature."

World oil, Nov. 1948, p.334. ¼ col.

"Contains extensive descriptions and illustrations of all the common and many of the uncommon features in rocks that can be used by field geologists . . . Prepared to describe and illustrate principles and features that can be used to establish order of succession in layered rocks, especially where the strata are steeply inclined or vertical . . . Written expressly for students, but may well serve as a convenient review for experienced field geologists . . . Includes 500 line drawings and more than 150 photographs, most of which are originals . . . Also includes an extensive bibliography of references drawn from most of the English-speaking countries of the world. The complete table of contents and index make it a book for ready reference."

Smith, C. H. Gibbs-. See Gibbs-Smith, C. H.

Smith, H. P. Electricity in the home. 135p. Lockwood, London, 5s. net.

Electrician, Oct. 15, 1948, p.1167. ½ col.

"In the opinion of the reviewer this type of book is to be deprecated, purporting as it does to inform the householder on matters electrical, so that he may carry out his own repairs and extensions. The fear is that it may provide just that little learning that may prove so dangerous." *T. C. G.*

Smith, William J., and others. Photoengraving in relief. Ed.2. 303p. 1947. Pitman, New York, $4.75.

Inland printer, Sept. 1948, p.79. ⅔ col.

"The authors, all Fellows of the Royal Photographic Society, have been associated with the trade and teaching of photoengraving for many years, and are all recognized as outstanding authorities on their subject. The book is one that should prove highly valuable as a reference work . . . The authors have brought the book up to date by including the results of later experimental work, chiefly in etching, and the description of new processes and equipment."

Soderberg, P. M. Cat breeding and general management. 344p. 1948. Cassell, London, 21s.

All-pets magazine, Nov. 1948, p.38, 41. 1⅔ col.

"Encyclopedic in structure, beginning at A, each chapter under the proper initial, up to Z. It covers diet under D for instance, G for grooming and so on. One of the most important and rare parts of the book is the chapter on the scale of points given for all variety of species, the procedure followed in England for shows, and the names of famous cats (so many of whom the American Fancy have in their pedigrees), their show careers, and their photographs. Mr. Soderberg has taken into partnership in compiling the book, the services of such authorities as Cyril Yeates, noted breeder and judge, such famous breeders as Lady Eardly Wilmont, A. C. Judge, Harold Basset . . . and a simply superb chapter on Judging, by Evelyn Langston. This last one named is a MUST for every show exhibitor, and also will be enlightening to all judges . . . There is a breeding chart included . . . and a splendid Biblography [sic] which covers all reference books published in England and is of great value to a scientific breeder." *Barbara Knight Cobb.*

Spotts, M. F. Design of machine elements. 402p. 1948. Prentice-Hall, New York, $6.65 (Schools, $5).

Machine design, Nov. 1948, p.178. ⅔ col.

"This new text, written by a man who has an enviable record of teaching the subject, contains much material that makes it of special interest at this time. Principal attention has been directed to the application of the elements of engineering mechanics to the analysis of representative machine components, little attention being given to the actual forms of the items as they appear commercially. This has been done . . . because such information is readily available from catalogs. The excellent illustrations contain much more detail than is usually given in works of this type . . . Particularly to be noted are the excellent bibliographies which accompany each chapter. These are up-to-date, stick close to the subject indicated, and are of value to the reader who wishes further information on a specific subject." *C. E. Balleisen.*

Steeds, William. Involute gears. 193p. 1948. Longmans, New York, $4.50.

Engineer, Oct. 8, 1948, p.365. 1 col.

"In the preface . . . Mr. Steeds describes with engaging simplicity the defects of existing books on the subject, and states as his objective 'a properly balanced book suitable in scope, treatment and price' for students, apprentices, draughtsmen, designers and inspectors. If in turn his own work be found to be the subject of criticism, he may derive some consolation from the thought that his task was impossible of achievement . . . In short, this book seems lacking in discrimination between what is essential and what is merely of academic interest."

Steiner, Luke E. Introduction to chemical thermodynamics. Ed.2, revised. 510p. 1948. McGraw, New York, $6.

Petroleum processing, Oct. 1948, p.1017. ⅓ col.

"The purposes of . . . [the first edition] have been retained in this new revision—to acquaint the senior student in chemistry or chemical engineering with the fundamentals of the subject, to prepare him to use current tables of data, and to give him a sound background for future work and study. Among features of the new edition is an expansion of the chapter on gases because of the growing importance of equilibrium in the gaseous phases. The newer data on hydrocarbons published under Research Project 44 of The American Petroleum Institute and the National Bureau of Standards have been included where required in a number of chapters."

Stephenson, H. K. See Applied physics.

Stewart, Jean J., & Edwards, A. L. Foods; production, marketing, consump-

tion. Ed.2. 490p. 1948. Prentice-Hall, New York, $4.75. (Home and family life series.)

Food industries, Nov. 1948, p.203. 7 l.

"Attempts to cover the whole food front for the consumer, and it manages to skim over a great deal of territory in so doing. It holds little interest for the food processor except, possibly, as recommended reading for the beginners in his plant."

Forecast for home economists, Nov. 1948, p.61. ½ col.

"The authors believe their book has three purposes: to lead individuals to think of food problems and to discover their proper solutions; to think in terms of life situations; and to point out where information on food topics may be obtained . . . Divided into three parts: The need for food by individuals and groups; foods —production, nutritive value and buying; and the principles of cooking foods. Many tables and charts are included . . . Foods and nutrition instructors will be particularly interested in using this comprehensive textbook."

Strohm, Rufus T., & De Groot, Archibald. The slide rule; how to use it. Ed.2. 95p. 1948. International Textbook, Scranton, Pa., $2.

Inland printer, Sept. 1948, p.79. ½ col.

"Gives complete instructions for using that ingenious device known as the slide rule. To one to whom figures and figuring are anathema, the calculations that can be made and the mathematical problems that can be solved quickly and with apparent simplicity on the slide rule are little short of amazing . . . Presents, in a clear and concise manner, the information required to enable the average person to learn how to use the slide rule for calculations involving multiplication, division, proportion, finding powers and roots, and so on. It tells how the settings should be made, and it also shows the actual settings by means of numerous illustrations. Methods of solving each type of problem are explained both by a general outline and by a step-by-step solution. The fundamental principles underlying the operation of slide rules that are in common use are explained fully."

Stubbings, G. W. Dictionary of heavy electrical engineering. Ed.2. v.2. 225p. E. & F. N. Spon, London, 10s. 6d. net.

Electrician, Oct. 15, 1948, p.1167. ⅛ col.

"The author explains that his object has been to produce a small inexpensive reference book, which will comprise some of the utilities of the exhaustive British Standard Glossary and also of the large encyclopædias. It is suggested primarily as a supplement to students' textbooks, as a help to practical engineering and also to those who occasionally make contact with electrical engineering."

Mass production, Nov. 1948, p.64. ⅖ col.

"Should prove to be of value to a very wide range of reader, since it is not only useful to engineers and students in extending their technical knowledge and vocabulary, but is probably of much greater value as a reference book for the assistance of machinery buyers, exporters, dealers, and commercial firms who are interested in promotion of production and marketing of technical equipment and in applying modern methods of utilising electric power for industrial purposes."

Stubbings, G. W. Elementary vectors for electrical engineers. Ed.3. 112p. Pitman, London, 7s. 6d. net.

Electrician, Oct. 29, 1948, p.1305. ⅖ col.

"Attempts at simple presentation of electrical subjects sometimes result in a loose style, lacking in accuracy. Such criticism cannot be applied to the present volume, which, while written in a very interesting and readable style, is also accurate in detail. Whether it invariably attains the simplicity of explanation aimed at may be a matter of opinion. Certainly it does so in the more elementary and essential sections, but one rather wonders why the author assumes no knowledge whatever of elementary calculus, as this assumption certainly increases the difficulty of his task of simple explanation in some sections. Any reader who is able to make full use of the book would almost certainly have had some previous training in elementary differential and integral calculus, and would find certain sections easier to follow if they had been written with the assumption of this prior knowledge . . . An excellent little treatise and remarkably good value at the price." *T. A. L.*

Suits, C. G. **See Applied physics.**

Taylor, E. D. Optical properties in cleavage flakes of rock-forming minerals. 80p. 1948. Laval University, Quebec, $3.50.

Earth science digest, Oct. 1948, p.26. 1½ col.

"This work . . . represents a very pertinent contribution to determinative optical methods . . . One of the outstanding features of the work (which represents an unusually high calibre of work for a Masters' thesis) is the depiction of the optical orientation relative to cleavage on 98 small but clear stereographic projections. Beginning students are often puzzled by their inability to obtain good optic figures, and these projections will serve a useful explanatory purpose in such cases. The practical value of the projections in demonstrating just what can be seen down the tube of the microscope is considerable. Still another useful tool made available is the relation between apparent optic angle and true optic angle; this is done both in a large graph and in a tabulation . . . The tables and figures will serve as very useful tools in optical investigations of the common rock forming minerals. Of course, their use will require a certain amount of study and practice, but both should be well worth the effort." *C. W. Wolfe.*

Teale, Edwin Way. Days without time; adventures of a naturalist. 283p. 1948. Dodd, New York, $6.

Frontiers, Dec. 1948, p.58. ½ col.

"In spite of the rather high price of this book, followers of Edwin Way Teale's nature volumes will welcome his latest edition which is essentially a collection of interesting and unusual nature adventures well told and superbly illustrated with 144 photographs. Among the photographs are many revealing studies of some of nature's best kept secrets." *James A. Fowler.*

Natural history, Nov. 1948, p.390. ⅖ col.

"If you read *Days Without Time,* you will realize that every living plant and animal has

its enemies, whose object is to feed upon the prosperous plant or animal and to prosper themselves even though the host must die. You will also discover that insects in particular are of service to plants and that the majority of plants are dependent upon insects for their very existence—through pollination of the flowers. The book is a series of some 29 essays on natural history, and it deals mostly with insects. Practically all of the 144 illustrations are of top quality; indeed, most of them are classics in their field . . . A record of facts and experiences presented in a most entertaining way and will be a valuable addition to any bookshelf." *C. H. Curran.*

Tyler, Paul M. From the ground up. 248p. 1948. McGraw, New York, $3.50.

Economic geology, Nov. 1948, p.611. ⅝ p.

"This title is meant to indicate what happens with metals and minerals after they leave the ground, since it deals with the facts and problems of the mineral industries of the United States. It is a new approach to the subject of mineral economics and presents a picture of the full economic development and prudent employment of natural resources and the ways in which they affect the welfare of the nation . . . Contains a lot of valuable statistical information and much material of interest to all geologists, mining engineers, mineral economists and geographers." *A. M. B.*

Metal industry, Sept. 17, 1948, p.232. ⅛ col.

"Sets forth a brief survey of the mining industries in the United States and their relationship to national economy. While the main body of the book is factual, the final chapters present various practical proposals for improving conditions in the industry in harmony with the national interest and general welfare. Of the book's twelve chapters, the largest are those discussing common metals and minor metals. Nickel, tin, aluminium, magnesium, iron, gold, silver, copper, lead, zinc, antimony, chromite, manganese, molybdenum, tungsten, vanadium and uranium are among the metals discussed."

Mining and metallurgy, Nov. 1948, p.619. 1⅛ col.

"A readership principally of policy makers and inquiring laymen seems to have been the author's objective. Yet even those familiar with the mineral industry will find interesting information of which they are not fully aware. The value of the book as a reference is limited by its brevity and the omission of a bibliography, although a detailed index is appended. The volume may find use in the college classroom as collateral reading, but it lacks the thoroughness and objectivity required of a standard text. The author writes with unusual clarity and sometimes with brilliance. His factual statements are expectedly accurate; but on occasion they are selected, at the expense of a balanced perspective, to favor special concepts . . . A more objective treatment of the subject would have enhanced greatly the value of the volume as an authoritative reference." *Allan F. Matthews.*

Udane, Bernard, & Gillary, H. W. Student's handbook of science. 208p. 1948. Ungar, New York, 75c.

Science counselor, Sept. 1948, p.101. ⅓ col.

"A little volume that should be put in every student's hands when he begins the study of science so that he may have the advantage of using it throughout his high school career. In this Handbook he will find answered many of the questions that will come to mind as his science interests develop. Here he is given specific help in learning how to study and how to draw, how to keep a good notebook, how to use a library, and how to develop extracurricular science interests. Used in connection with a textbook in any science it will stimulate the student's interest, ease his labor, and increase his success." *H. C. M.*

Ukers, William H. Romance of coffee. 296p. Tea & Coffee Trade Journal Co., 79 Wall St., New York, $5.

Tea & coffee trade journal, Oct. 1948, p.34. 2 col.

"The first authoritative work on coffee to appear in 13 years . . . Written to appeal to both the trade and the consumer . . . Presents an outline history of coffee and coffee drinking through a thousand years . . . Discusses the genesis of coffee, the early history of coffee drinking, how coffee came first to Europe and America; it tells, in a popular way, how coffee grows, how it is prepared in the countries of production and how it is roasted, packed and sold in the big consumer countries. Other technical aspects of the subject are included in the chapter dealing wholly with the commerce of coffee. The social aspects of the subject are included in chapters devoted to 'Coffee Manners and Customs', 'Coffee and the Fine Arts', containing numerous tributes to coffee and a concluding chapter entitled 'The Coffee Hour', which discusses the healthfulness of the drink, coffee blends and tells how to buy coffee and make it properly."

Uris, Auren. Improved foremanship. 280p. 1948. Macmillan, New York, $3.50.

Personnel journal, Oct. 1948, p.203. ½ p.

"A good book. By following Phil Starr, a newly appointed foreman in a hypothetical and miraculously progressive plastics company, the reader learns of a foreman's problems and of what the various staff departments offer to and expect of a production foreman . . . What is presented . . . is useful and realistic. John Raven, the retiring foreman whom Starr is to succeed, has some particularly cogent suggestions of interest to any foreman. The whole volume may be of greater value to a training supervisor or a superintendent than to the individual foreman. It offers approaches to subjects on which foremen should be informed that are readily adaptable to individual or group training. Many of the problems which foremen face are analyzed simply and directly, with straightforward charts and check lists. Because the material is so concentrated, it perhaps may not be suitable for direct distribution to many supervisors." *James W. Tower.*

Ware, George A. Accounting handbook for the drop forging industry. The Author, 3544 Ingleside Rd., Cleveland, $6.

Steel processing, Sept. 1948, p.499. ¾ col.

"Written for executives, accountants and junior clerks of the forging industry, although the principles and the procedures illustrated have been successfully applied by the author in such diversified industries as machine tool manufacture, manufacture of laundry machinery, cut cast stone, die casting, as well as many drop forging installations."

Weldon, T. F. A simplified introduction to high speed flight. 42p. 1948. The Author, Box 227, Osborn, Ohio, 75c.

Aeronautical engineering review, Oct. 1948, p.81. ¾ col.

"According to the author's own words, this booklet is an attempt to reduce some of the more salient topics of modern aerodynamics into simple, everyday English . . . The booklet seems to be a remarkably lucid survey of the whole high-speed flight story considering the obstacles encountered. For instance, one of the most common queries of the layman is, 'What is a shock-wave?' This book explains the phenomenon in two or three simple paragraphs which should clear up the matter for the non-technical public. In fact, many of the illustrations are the standard figures found in all works on supersonic aerodynamics. The author has presented the subject matter in a manner that will do much toward increasing the understanding of those who are interested in the topic but have not had the training essential for dealing with it." *J. F. Ludloff.*

Wernick, S. Electrolytic polishing and bright plating of metals. 243p. 1948. Alvin Redman, Ltd., Whitfield Pl., London, W.1, 30s. net.

Chemical age, Oct. 16, 1948, p.532. 1 col.

"Apart from the admirable survey of electrolytic polishing contained in the first section of the Proceedings of the 3rd International Electrodeposition Conference, recently published . . . this work . . . appears to be the first book in English to be published on the subject. It is, however, a relatively small book, and of the 175 pages of actual text—the remainder being appendix, bibliography, and index—about half are devoted to electrolytic polishing, and the other half to plating or deposition . . . [The author has] attempted to enunciate clearly the principles of electrolytic polishing and bright plating, so far as these are understood, and to give useful working details of established processes. In this he has very ably succeeded. An unusual and valuable feature of the bibliography is the inclusion of very brief abstracts with the more important references."

Electrician, Oct. 29, 1948, p.1305. ½ col.

"Useful features . . . include the bibliography, which contains no fewer than 529 references, and the index of authors, consisting of over 400 names. The thirteen chapters cover the polishing and/or plating of stainless steels, carbon steels, nickel, aluminium, zinc, cadmium, copper, silver, platinum, palladium and rhodium . . . The author, by virtue of his works and laboratory experience, and later as Secretary and then President of the Electo-depositors' Technical Society, is well qualified to compile the present volume . . . Excellently produced and well illustrated, and should be most useful both to the student and technician."

Metal finishing, Nov. 1948, p.113. ⅔ col.

"At a time when the cost of finishing metals by the usual manual polishing and buffing methods has reached an all time high, the author of this book has presented the story of two of the most modern methods available to metal finishers to offset these high labor costs. Dr. Wernick's book points out with admirable adherence to factual data that, although the eventual and Utopian result of the application of these two techniques would be to eliminate mechanical buffing operations entirely, much further work is still necessary before this ambition can be realized in practice. Nevertheless, a considerable amount of work has been accomplished, and many practical applications of electropolishing are detailed . . . For the person who wants to know what has been accomplished, and what remains to be accomplished in the field of electropolishing, this book is a valuable reference." *W. A. R.*

Williams, Albert E. Asbestos; its preparation and application. 44p. 1948. Emmott, Manchester, England, 2s. 6d. (Mechanical world monograph, no.47.)

Electrical times, Oct. 28, 1948, p.510. 12 l.

"Asbestos, as used in industry, takes many forms vastly different from the original rock-born fibres. This monograph describes how the mined mineral is processed to give the commercially-desirous inorganic textile, and considers the various applications found for the mineral. Particular attention is given to its use in jointing and gland packing, and there is a fairly extensive consideration of electrical properties. Many practical notes are included."

Williams, Robert S., & Homerberg, V. O. Principles of metallurgy. Ed.5, revised. 319p. McGraw, New York, $4. (McGraw-Hill metallurgy and metallurgical engineering series.)

Steel processing, Oct. 1948, p.567. ⅝ col.

"The stated purpose of this book, according to the authors is to meet the needs of those students of general science or engineering, and those persons engaged in these fields, who are not specializing in metallography, but whose professional work may or does demand some utilization of the subject. In this edition, as well as the others which preceded it, greater emphasis is laid on the applications of metallography rather than on the theory that lies behind it. However, the underlying principles of metallography are not ignored. Certain practices brought about by the Second World War in the field of alloys have forced a revision and have been incorporated into the text. The chapter on Elastic Deformation and Annealing of Metals by the eminent Dr. Morris Cohen of the same university as the authors will prove very enlightening as well as the discussion of hardenability."

Wilson, W. Cathode ray oscillograph in industry. Ed.3. 252p. 1948. Chapman & H., London, 18s. net.

Instrument practice, Oct. 1948, p.513. 1⅛ col.

"The author sets out to describe all cathode ray tubes that are in use in *industry,* and to restrict himself to the more practical side of the tubes' applications. He draws attention to a great variety of ways in which the tubes have been used, and there are nearly 200 very clear line diagrams or photographs. Although some of the descriptions are necessarily brief, there are numerous references to original papers if the reader desires fuller information. The book forms a useful bridge between the more academic works and the specialized articles which appear in the technical journals."

Journal of scientific & industrial research, Sept. 1948, p.416. ⅔ col.

"The arrangement of matter adopted in the 2nd edition has been retained . . . The section

on fluorescent screens . . . has been largely rewritten. A new section 'Electrostatic *vs.* Magnetic Deflection' has been added. An informative section on 'Developments employed in Radio location' has been included in the appendix . . . The addition of a section to the appendix on the latest developments in cathode-ray tube construction brings the 3rd edition up to date, and renders it useful for physicists and engineers concerned with the use of the oscillograph in diverse fields of industry." *V. V. L. Rao.*

Science progress, Oct. 1948, p.742. ⅔ p.

"Readers familiar with the previous edition will find that this, the third, differs from it only in comparatively minor respects. Most important of these are the sections on fluorescent screens and on the merits of magnetic deflection, both influenced by the recently published details of radar research. Other recent developments are mentioned in a 4-page appendix, and there are minor textual modifications. The need for three editions within five years is a fair indication of the usefulness of the book in surveying the large field of oscillography . . . Numerous photographic illustrations and a classification of oscillography by function help to make the treatment clear, and the emphasis throughout is on applications rather than on the theory of operation. The book forms an admirable introduction to the more specialised texts." *H. Marriott.*

Wingren, Roy Matthew. Kinematic problems. [New edition.] 40p. 1948. Prentice-Hall, New York, $3 (Schools, $2.25).

Tool engineer, Oct. 1948, p.52. ⅓ col.

"A problem book to be used in conjunction with any course in the study of kinematics. Included . . . are 40 outline sheets, laid out in such a manner as to save valuable classroom time by providing the student with pre-drawn title block, border lines, and a basic layout to illustrate the problem. Several problems are given for most of the layout sheets. Solutions are not offered, in order that the instructor select the method to fit the particular textbook being used."

Winkelstein, Asher. Modern treatment of peptic ulcer. 205p. 1948. Oxford, New York, $4.

Journal of the American Dietetic Association, Oct. 1948, p.886. ⅓ col.

"The purpose . . . is to present in detail the various problems associated with the nature and the treatment of peptic ulcer. The contents . . . deal largely with the intragastric drip therapy, which is the author's own contribution to ulcer therapy; vagotomy; the psychosomatic approach; the protein hyperalimentation therapy; and enterogastrone. An addendum chapter includes drug prescriptions and two pages of diet lists . . . While the dietitian will be interested in some of the newer forms of medical, surgical, and psychosomatic therapy, there will be little that is not familiar to her in the dietetic therapy given in this book."

Wolfrom, M. L. See Pigman, W. W., & Wolfrom, M. L., ed.

Woodbury, David O. Battlefronts of industry; Westinghouse in World War II. 342p. 1948. Wiley, New York, $3.50.

Power, Oct. 1948, p.164. ½ col.

"[The author] sets down the history of Westinghouse's contributions to victory in World War II. It is a thorough and detailed job—sound, carefully checked and easily read. The over-all picture of Westinghouse contributions is highly impressive."

Power generation, Nov. 1948, p.133. ¼ col.

"While this book describes the activities of the Westinghouse Electric Corp. in World War II, it is, of course, a general account of the technical developments which made World War II so different from any other war that has ever been fought. It is the battle narrative of all American industry . . . Will be an inspiration to everyone associated with American industry."

Worden, A. N., ed. The U.F.A.W. handbook on the care and management of laboratory animals. 368p. 1948. Ballière, London, 31s. 6d.

British science news, v.1, no.11 1948, p.23. ½ col.

"This book is a worthy product of civilization. 'UFAW' stands for Universities Federation for Animal Welfare . . . The Federation has gathered together . . . all the knowledge that they could obtain which might contribute to the better treatment and care of laboratory animals. The whole matter is treated with the utmost care, and no trouble has been spared to go to all possible sources of knowledge which could be utilized to make the animals more comfortable in return for their enforced contribution to learning . . . This is a handbook which should be on the shelf in every animal laboratory . . . Though written in English, it is cosmopolitan in the sources from which it is compiled." *E. M. Hume.*

Discovery, Sept. 1948, p.300. ⅝ col.

"The U.F.A.W. . . . has done a considerable service both to scientists and their experimental animals by the production of the present handbook . . . First gives the legal requirements for keeping animals, then details the ideal animal laboratory, and then in a series of chapters it describes the special requirements for the different types of laboratory animal from the point of view of accommodation, nutrition, breeding, handling, anaesthesia, and disease and its control . . . Must find a place on the shelves of everyone in Great Britain whose work involves the use of laboratory animals." *Geoffrey H. Bourne.*

Research, Aug. 1948, p.519. 1⅓ col.

"Caters chiefly for those working on bacteriology, protozoology, endocrinology and nutrition in that the animals with which it deals comprise the rabbit, cavy, mouse, various breeds of rat, vole, hamster, ferret, hedgehog, pigeon, canary, amphibia and fresh water fish. Each species is dealt with by a person well qualified by experience and, in general, the treatment is under the following headings: Accommodation, nutrition, handling, breeding, anaesthesia and the diseased conditions to which they are prone . . . We heartily congratulate U.F.A.W. and the editor on the excellence of their effort. It is the practical contribution to the welfare of animals we would expect from a group of university men and women." *J. G. Wright.*

AUTHOR INDEX

Including titles of anonymous works

Jan., p.1-20; Feb., p.21-40; March, p.41-60; April, p.61-80; May, p.81-100; June, p.101-120; Sept., p.121-140; Oct., p.141-160; Nov., p.161-180; Dec., p.181-204

—A—

Abbott, Arthur G., 41
Ackerman, Lauren V., & del Regato, J. A., 21
Ackerman, William C. See Bryson, Lyman, 122
Adolph, E. F., 41
Advances in food research, 161
Ahrendt, William R., & Taplin, J. F., 41
Albert, A. L., 141
Albright, John G., 121
Alexander, Edwin P., 81
Alexander, Jerome, 101
Alfrey, Turner, jr., 81
Allcut, E. A., 101
Allen, J., 101
Allen, John E., 41
Allen, Robert Porter, 1
Alter, Dinsmore, 42
Alter, Dinsmore, & Cleminshaw, C. H., 141
Andersen, Paul, 121
Anderson, Arthur K., 21
Anderson, Hamilton H., 81
Anderson, Paul, 181
Andrade, E. N. da C., 61
Andrews, W. B., 42
Angus-Butterworth, L. M., 161
Anthony, Herbert D., 161
Appleyard, F. N., & Lyons, C. G., 42
Applied physics, 181
Archer, R. S., 141
Arguimbau, Lawrence B., 102
Armitage, Angus, 1
Asch, John, 181
Ashbrook, Frank G., 102
Aspley, John Cameron, & Whitmore, Eugene, 162
Attwood, C., 162
Atwood, William Henry, 42
Avery, George S., jr., 102

—B—

Bachman, Charles H., 102
Bachmeyer, Arthur C., & Hartman, Gerhard, 181
Bacon, James, 42
Bailey, Alton E., 121
Baker, H. Wright, 182
Baker, Morris B., 43
Baker, Robert H., 82
Baldwin, Ernest, 1
Ballard, W. E., 61
Barlow, H. M., 61
Barnes, G. M., 2
Barrett, Charles, 102
Barrett, Thomas J., 102
Barringer, Edwin C., 21
Bartley, S. Howard, & Chute, Eloise, 2
Bastedo, Walter A., 43
Bateman, John H., 162
Baughman, Imo P., 43
Baver, L. D., 162
Bawn, C. E. H., 182
Bayles, Ernest E., & Miller, A. L., 22
Beatty, R. T., 82
Beaumont, R. A., 82
Beck, A. H. W., 182
Bedford, Thomas, 162
Behrman, Howard T., & Levin, O. L., 182
Beitler, Samuel R., & Lindahl, E. J., 162
Beitman, Morris N., 121
Bell, A. E., 163
Benitez, M. Gonzalez, 43
Bennett, H., 163
Bent, Arthur Cleveland, 22
Bergmann, Ernst David, 141, 163
Beringer, Bernard, 43
Berle, A. K., & De Camp, L. S., 22
Bethe, Hans A., 22
Bewley, Loyal V., 142
Bikerman, Jacob J., 103
Bird, G. W., 62
Bird, Harry Lewis, 44
Black, J., 82
Black, John D., 44
Blalock, Grover C., 23
Blasdale, Walter C., 163
Blocker, John G., 142
Blumenthal, Saul, 2
Boas, Walter, 122
Bond, James, 62
Borden, Perry A., & Thynell, G. M., 163
Bouwers, Albert, 62
Bower, F. O., 82
Boyce, Joseph C., 23
Bradley, Ian, & Hallows, N. F., 44
Brady, George S., 23
Brailsford, F., 142
Brandt, Allen D., 23
Bray, John L., 103
Breed, Charles B., & Hosmer, G. L., 82
Breed, Robert S., 122
Breland, Osmond P., 182
Brewster, Arthur J., 23
Brewster, Ray Q., 103
Briggs, G. A., 142
Brisco, Norris A., 2, 23
British Compressed Air Society, 62
British Rheologists' Club, 24
Brodman, Keeve, 24
Bronwell, Arthur B., & Beam, Robert, 82
Brough, J. C. S., 142
Brown, Alvin, 2
Brown, G. G., 182
Brown, Gordon S., & Campbell, D. P., 183
Brown, Hiram, 103
Brown, Nelson C., 24
Brownlee, K. A., 63
Brues, Charles T., 83
Bryson, Lyman, 122
Buchan, S., 122
Budgen, N. F., 44
Bullens, Denison K., 83
Bump, Gardiner, 103
Burchard, John, 183
Burdon, Kenneth L., 44
Burk, Robert Emmett, & Grummitt, Oliver, 83
Burn, John L., 84
Burrington, Richard Stevens, 63
Burton, E. F., 164
Butterfield, Thomas E., 45
Butterworth, B., 122
Butterworth, L. M. Angus-. See Angus-Butterworth, L. M., 161

—C—

Cady, Edwin Laird, 122
Camm, F. J., 63, 183
Cannon, Paul R., 183
Carlson, Anton J., & Johnson, Victor, 164
Carr, William H., 45
Carruthers, George, 2
Carslaw, Horatio S., & Jaeger, J. C., 45
Carter, Ernest F., 24
Carter, Gardner L., & Cole, J. W., 164
Cawadias, A. P., 164
Chapman, Herman H., & Meyer, W. H., 63
Chatfield, H. W., 142
Chenoweth, Laurence B., & Selkirk, T. K., 24
Cheronis, Nicholas D., & Entrikin, J. B., 3
Cheskin, Louis, 3
Chester, K. Starr, 45
Church, Austin H., 142
Chwistek, Leon, 164
Cissel, James H., 104
Clapp, John M., 63
Clapperton, R. H., & Henderson, W., 3
Clark, Austin H., 123
Clark, M. Mansfield, 123
Clements, Guy Roger, & Wilson, L. T., 45
Clippinger, Donald R., 123
Coale, Ansley J., 46
Cockroft, J. D., 165
Cohen, Abraham, 84

Cole, Robert H., 183
Collacott, R. A., 104
Collings, Gilbeart H., 3
Collins, George B., 143
Colloid science; a symposium, 4
Colvin, Fred H., 64
Colvin, Fred H., & Stanley, F. A., 84
Comrie, L. J., 84
Conant, James Bryant, & Blatt, A. H., 64
Connor, R. See Noyes, William A., 190
Considine, Douglas M., 104
Constant, Hayne, 184
Cook, Melville Thurston, 24
Cooper, Lenna F., 64
Copeland, M. T., & Towl, A. R., 4
Copp, Douglas, 46
Corfield, D. N., & Cundy, P. V., 143
Corkhill, Thomas, 143
Corrie, Frank Ewart, 143
Coryell, Charles D., 104
Coulson, Charles A., 143
Coward, Katharine H., 105
Crane, M. B., & Lawrence, W. J. C., 123
Crank, J., 123
Cranston, J. A., 4
Crary, Selden B., 4
Crawford, M. D. C., 143
Creamer, Walter J., 165
Crocker, William E., 144
Crossen, George E., & Goldner, K. J., 105
Crouse, William H., 165
Cruess, W. V., 165
Cruickshank, Allan D., 4
Cruickshank, Helen G., 184
Culver, Charles A., 105
Cuneo, John R., 24
Cureton, Thomas Kirk, 105
Currie, J. R., & Mearns, A. G., 165
Currier, A. J., & Rose, A., 166
Curtis, Harry P., 166
Cushman, Frank, & Cushman, R. W., 105
Cuttell, J. R., 184

—D—

Dalla Valle, Joseph M., 106, 123
Dameshek, William. See Hill, Joseph M., & Dameshek, William, 127
Dann, W. J., & Satterfield, G. H., 25
Darling, F. Fraser, 84
Darnell, Joseph Roy, 124
Darrow, Karl K., 184
Das, Mathura M., 64
Daubenmire, Rexford F., 85
Davies, Owen L., 25
Davis, Hallowell, 106
Davis, Harry M., 124
Davis, Robert H., 64
Davis, Tenney L., 185
Day, Enid, 46
Dean, Robert B., 124
De Carle, Donald, 5
Degering, Edward F., 5
DeGraff, Herrell, & Haystead, Ladd, 144
Deming, Dorothy, 5
Desch, Harold E., 85
Dethier, Vincent G., 46
Dewberry, Elliott B., 5
Dickinson, Thomas A., 106
Dickson, James G., 5
Dirac, P. A. M., 25
Doig, Peter, 107
Dooley, Marion S., & Rappaport, Josephine, 166
Dormon, E. G., & Elmes, E. J., 185
Douglas, Ann C., 6
Douglas, Lloyd V., 166
Douglass, Raymond D., & Adams, D. P., 85
Dover, A. T., 107
Drake, Frances S., & Drake, C. A., 25
Drake, Rollen H., 6, 46
Drepperd, Carl W., 47
Dunbar, Helen Flanders, 47
Dunham, Clarence W., 166
Dunlap, Orrin E., jr., 166, 185
Dwiggins, W. A., 144

—E—

Eames, Arthur J., & MacDaniels, L. H., 65
Eastman, E. D., & Rollefson, G. K., 26
Eddy, Samuel, 47
Eddy, Samuel, & Surber, Thaddeus, 47
Eden, T., 26
Edminster, Frank C., 107
Edwards, A. B., 65
Edwards, Linden F., 6
Eggleston, Cary, 26
Eggleston, DeWitt C., 6
Egloff, Gustav, & Hulla, George, 167
Eilers, H., 125
Einarsen, Arthur S., 185
Elberfeld, John, 144
Elder, Albert L., 144
Elford, H. S., & McKeown, M. R., 65
Ellis, Carleton, & Swaney, M. W., 26
Ellis, J. C. B., 167
Emerson, Fred W., 48
Emsley, H. H., & Loxham, J., 6
Encyclopedia of chemical technology, 65
Ernstene, A. Carlton, 167
Erskine, Arthur W., 86
Escritt, L. B., 86
Etheredge, Maude Lee, 26
Evans, Ralph M., 144
Evans, Ulick R., 145
Eve, Duncan, jr., & Sharber, Trimble, 66

—F—

Faires, Virgil Moring, 66, 145
Fassero, James S., & Porter, R. W., 48
Fassett, F. G., jr., 145
Faulkner, Edward H., 86
Fawcett, J. R., 146
Felker, C. A., 27
Feller, Eugene W. F., 48
Felten, Charles J., 27
Ferrar, W. L., 185
Field, Crosby, 66
Finch, James Kip, 186
Findlay, Alexander, 86
Findlay, Alexander, & Mills, W. H., 27
Finney, D. J., 66
Finniecome, J. R., 107
Fishbein, Morris, 27
Fisher, Ronald A., 48
Fishwick, Victor C., 28
Fitzpatrick, Thomas B., 28
Fletcher, D. W., 48
Foley, Arthur L., 28
Follis, Richard H., 125
Fonda, Gorton R., & Seitz, Frederick, 125
Forsythe, William E., & Adams, E. Q., 146
Foster, William, & Alyea, H. N., 125
Fowler, Harlan D., 146
Fowles, G., 66
Fox, Reginald, 167
Foyster, J. R., 86
Francis, Wilfred, 86
Frear, Donald E. H., 186
Frey, Albert Wesley, 86
Frocht, Max M., 125
Froman, Lewis A., 186
Frye, Royal M., 6
Fuller, Raymond T., 107
Furnas, Clifford C., 87

—G—

Gaddum, John H., 186
Gade, John Allyne, 108
Gale, Ernest F., 49
Gamow, George, 7
Garard, Ira D., 108
Gardam, G. E., 125
Gardner, Ernest, 108
Gates, R. Ruggles, 108
Gaydon, Alfred G., 28, 168
Gensamer, Maxwell, 126
Geyer, E. W., & Bruges, E. A., 87
Ghiselli, Edwin E., & Brown, C. W., 108
Gibbs-Smith, C. H., 186
Giblin, J. C., 168
Gibson-Hill, C. A., 7
Giddens, Paul H., 87
Gill, George H., 7
Gillespie, D. T. C., 186
Girvin, Harvey F., 108
Glaessner, Martin F., 49
Glasoe, G. N., & Lebacqz, J. V., 187

Glauert, H., 108
Gloag, John, 168
Glockler, George, & Glockler, R. C., 109
Goldman, Stanford, 126
Goldwater, S. S., 67
Goodman, Clark D., 87
Goodstein, R. L., 168
Gorter, C. J., 109
Gortner, Willis A., 126
Gottlieb, Bernhard, 88
Goudsmit, Samuel A., 28. See also Torrey, Henry C., & Whitmer, C. A., 137
Gray, Alexander, 28
Gray, George W., 88
Green, Roland, 88
Greenhalgh, Richard, 67
Greenwood, Ivan A., jr., 146
Grodzinski, P., 168
Grollman, Arthur, 29
Gross, Martin, & Greenberg, L. A., 187
Grossman, William L., 67
Gruber, Charles M., 168
Grummitt, Oliver. See Burk, Robert Emmett, & Grummitt, Oliver, 83
Guenther, Ernest, 109
Gustafson, A. F., 126
Györgyi, Albert Szent-. See Szent-Györgyi, Albert, 117

—H—

Hage, Robert E., 126
Haldane, J. B. S., 29
Hall, Albert C., 8
Hall, David G., 146
Hall, James D., 29
Hall, John S., 29
Hallows, R. W., 146
Ham, C. W., & Crane, E. J., 168
Hamilton, Donald R., 169
Hammer, Bernard W., 146
Hansen, Howard J., 67
Harpster, Hilda T., 169
Harrington, R. H., 126
Harrison, E., 146
Harrison, G. R. See Applied physics, 181
Harry, Ralph G., 88, 147
Hart, W. B., 29
Hartman, Gerhard. See Bachmeyer, Arthur C., & Hartman, Gerhard, 181
Hartman, Robert J., 147
Hartshorne, D. J., 49
Hartwell, Samuel W., 109
Harvard University—Radio Research Laboratory. See United States — Radio Research Laboratory, Harvard University, 99
Harvey, William Clunie, & Hill, Harry, 169
Haslett, Arthur W., 8
Hatt, Robert T., 169
Hausman, Ethel Hinckley, 147
Hausman, Leon Augustus, 110
Hawley, Ralph C., & Stickel, P. W., 187
Hayes, Edward W., 8
Haynes, Benarthur G., 67
Hazlett, T. Lyle, 29
Heidingsfield, Myron S., & Blankenship, A. B., 8
Heinritz, Stuart F., 8
Hennessey, William J., & Atkin, W. W., 127
Henry, Darold J., 127
Hentschel, Christopher C., & Cook, W. R. I., 49
Hercock, R. J., 30
Heron, Alexander R., 110
Herrick, Arthur D., 30
Herrick, C. Judson, 127
Heumann, Gerhart W., 30
Hickinbottom, Wilfred John, 127
Hildebrand, Joel H., 110
Hill, C. A. Gibson-. See Gibson-Hill, C. A., 7
Hill, Joseph M., & Dameshek, William, 127
Hilton, B. Richard, 147
Himus, Godfrey W., 68
Hitchcock, Louise S., 187
Hoag, J. Barton, & Korff, S. A., 169
Hodge, W. V. D., & Pedoe, D., 187
Hodges, Eric S., 9
Hoff, Arthur G., 30
Hogness, T. R., & Johnson, W. C., 110
Holbrook, Stewart H., 30
Hopkins, Edward S., 147
Horsley, Terence, 110
Horton, Ralph E. See Marcus, Abraham, & Marcus, Williams, 92
Horwath, Ernest B., & Toth, Louis, 148
Howard, Louise E., 127
Hubbard, Clarence A., 9
Hughes, E. A. Moelwyn-. See Moelwyn-Hughes, E. A., 71
Hull, Thomas G., 111
Hunsaker, J. C., & Rightmire, B. G., 68
Hunter, Dard, 111
Hunter, L. E., 88
Hurren, B. J., 50
Husband, Joseph, & Harby, William, 89
Hussey, Russell C., 89
Huston, Ralph Chase, 127
Huxley, Leonard G. H., 31

—I—

Ibbetson, W. S., 31
Imms, Augustus D., 50
Industrial electronics reference book, 148
Ingells, Douglas J., 31
Ingersoll, Leonard R., 169
Innes, William T., 9
Iterson, F. K. Th. van, 69
Ivey, Paul W., 89

—J—

Jackson, J. Hugh, 127
Jackson, L. C., 188
Jackson, Percy G., 89
Jacobson, Carl A., 170
James, Hubert M., 111
James, Thomas H., & Higgins, G. C., 128
James F. Lincoln Arc Welding Foundation, 111
Jánossy, L., 148, 170
Jaques, Florence Page, & Jaques, F. L., 9
Jauncey, George E. M., 188
Jeans, James, 31
Jeans, P. C., & Marriott, W. M., 89
Jefferson, Josephine, 128
Jeffs, Frederick, 69
Jenkins, R. S., 10
Jennings, W. A., & Russ, S., 170
Jnanananda, Swami, 69
Joe, Alexander, 50
Johnson, Arnold W., 128
Johnson, Vance, 89
Johnson, Wingate M., 50
Johnstone, Rutherford T., 128
Jolley, E. H., 10
Jones, Douglas W. Kent-. See Kent-Jones, Douglas W., & Amos, A. J., 10
Jones, E. J. H., 128
Jones, E. L. See Applied physics, 181
Jones, Harold Spencer-. See Spencer-Jones, Harold, 96
Jones, Oscar B., 31
Jones, Park J., 171
Jones, Philip W., 111
Jordan, Louis. See Applied physics, 181
Jucius, Michael J., 10
Judge, Arthur W., 31, 188

—K—

Kaberlein, Joseph J., 188
Kalmus, H., 148
Kanegis, James, 50
Karl, Alexander, 188
Kaye, George W. C., & Laby, T. H., 188
Keen, R., 10
Keith, Arthur, 171
Kelley, Truman Lee, 69
Kells, Lyman M., 90
Kempner, Stanley, 128
Kennedy, Clifford W., 171
Kennon, William Lee, 171
Kent-Jones, Douglas W., & Amos, A. J., 10
Kern, Frank D., 129
Kessler, Henry H., 11
Killeffer, David H., 129
Kimball, Dexter S., & Kimball, D. S., jr., 11
Kimbark, Edward W., 112
King, Horace W., 90
King, Reno C., jr., 112
Kinsey, Alfred C., 50

Kirk, Raymond E. See Encyclopedia of chemical technology, 65
Kirkbride, Chalmer G., 51
Kirschbaum, Emil, 148
Kisch, Bruno, 112
Kiss, Stephen A., 112
Kitchen, L. D., 90
Kittredge, Joseph, 129
Knight, Stephen A., 112
Kobe, Kenneth A., 149
Kohler, E. L., 130
Kolmer, John A., 70
Kowalke, Otto L., 90
Kozman, Hilda Clute, 113
Kraehenbuehl, John O., & Faucett, M. A., 51
Kraus, Edward H., & Slawson, C. B., 130
Kroeber, Alfred L., 189
Kröger, F. A., 149
Krynine, Dimitri P., 90
Kuever, Rudolph A., 11

—L—

Lack, David, 32
Lampert, Lincoln M., 70
Lane, Ferdinand C., 90
Lane, Janet, 32
Lang, Daniel, 171
Langman, H. R., & Moore, J. H., 113
Lansburgh, Richard H., & Spriegel, W. B., 11
Larkin, Edgar J., 32, 91
Laurence-Lord, F., 149
Law, J. P., 51
Lawshe, Charles H., jr., 130
Lebacqz, J. V. See Glasoe, G. N., & Lebacqz, J. V., 187
Lee, Reuben, 12
Leet, L. Don, 113
Lefèvre, R. J. W., 189
Lenihan, J. M. A., 149
Leonard, Fred Eugene, 113
Levens, Alexander S., 91
Levy, David M., 12
Lewin, Philip, 130
Ley, Willy, 189
Leyson, Burr W., 189
Lichty, Lester C., 113
Liddicoat, Richard T., 114
Likes, Carl J., & Harvey, A. E., jr., 12
Lillard, Richard G., 70
Lillie, R. D., 130
Linecar, H. W. A., 51
Linick, Leslie L., 172
Little, Robert W., 12
Loeb, Leonard B., 13
Logie, Gordon, 114
Long, J. S., & Anderson, H. V., 150
Longwell, Chester R., 189
Lord, F. Laurence-. See Laurence-Lord, F., 149
Lorig, C. H., & Adams, R. R., 150
Lovell, Bernard, 13
Lundberg, George A., 51
Lyman, Rufus A., 150

—M—

Macbeth, Colin, 91
McBride, Mary Margaret, 114
McCarthy, James Remington, 52
McCullough, W. W., 13
Macelwane, James B., 13
McIlroy, Robert J., 150
McIntyre, A. R., 14
Mackie, T. J., & McCartney, J. E., 172
McKinley, R. W., 32
McKinstry, Hugh E., 172
McLachlan, Norman W., 172
McNair, James B., 114
MacNaughton, Edgar, 150
McQuillen, J. W., 52
MacRobert, Thomas M., 33
Madison, Richard D., 151
Maedel, George F., 172
Maginley, C. J., 92
Mahin, Edward G., 130
Malin, James C., 70
Malmberg, Carl, 114
Manley, R. G., 190
Marchand, Nathan, 14
Marcus, Abraham, & Marcus, William, 92
Marcus, William, & Levy, Alex, 52
Marin, Joseph, 114
Mark, H., & Proskauer, E. S., 92
Marklew, H. M., & Collier, J. A., 151
Markwick, Evangeline, 92
Marsh, J. T., 173
Marshall, Alfred W., 33
Martin, C. R. A., 173
Martin, S. R. W., 52
Mason, H. L. See Oldenbourg, R. C., & Sartorius, H., 175
Matheson, W. A., 33
Mauck, Frances F., 53
Mautner, Leonard, 14
Mavor, James W., 53
Maynard, Harold B., 173
Maynard, L. A. See Gortner, Willis A., 126
Maytham, Thomas E., 131
Maze, Coleman L., 33
Menzel, Donald H., 151
Metcalfe, June, 53
Mettler, Fred A., 173
Meyer, Louis H., 70
Meyers, Lester, 33
Michener, William H., 71
Migrdichian, Vartkes, 71
Milk Industry Foundation, 131
Miller, Benjamin F., 151
Miller, H. A., 33
Miller, Jerome J., 131
Miller, William E., 93
Mills, W. H. See Findlay, Alexander, & Mills, W. H., 27
Milne, Lorus J., & Milne, M. J., 14
Milne-Thomson, Louis M., 131
Minikin, R. R., 173
Mitchell, John W., & Marth, P. C., 71
Mitchell, Katherine, & North, G. G., 93
Mode, Elmer B., 71
Moe, Harris G., 53
Moelwyn-Hughes, E. A., 71
Molloy, Edward, 72, 93, 115, 190
Montgomery, C. G., 93. See also Pound, Robert V., 133; Smullin, L. D., & Montgomery, C. G., 156
Montgomery, D. D. See Pound, Robert V., 133
Moon, Parry, & Spencer, D. E., 152
Moore, Herbert F., 15
Moore, Tom S., & Philip, J. C., 33
Morehouse, L. E., & Miller, A. T., 131
Moreno, Theodore, 152
Morgan, Alfred P., 132
Morris, P. A., 115
Morrison, Gordon, 190
Morse, Edna C., 132
Morse, Philip M., 152
Motz, William H., 53
Mrak, E. M. See Advances in food research, 161
Mueller, George V., 152
Muller, Gulli Lindh, & Dawes, D. E., 174
Muller, Siemon William, 15
Murdock, L. J., 153
Murnaghan, Francis D., 54
Murphy, Glenn, 72
Murphy, J. S., 190
Muteham, Wilfred A., 115
Myer, John N., 153

—N—

Nassau, Jason John, 174
Nathan, David, & Helmer, Olaf, 93
Ness, Fred C., 15
Neuner, John J. W., 15
Neville, Leslie E., & Silsbee, N. F., 72
Newman, James R., & Miller, B. S., 132
Newton, Joseph, 34
Nock, Oswald S., 93, 174
Norris, John W., 174
Norris, Roy C., 15
Northey, Elmore H., 132
Northrop, John H., 174
Noyes, William A., 190
Nystrom, Paul H., 132

—O—

Oakes, Lois, & Bennett, Arnold, 34
Obert, Edward F., 190
Ockenden, F. E. J., 16
Oldenbourg, R. C., & Sartorius, H., 175

Oldham, Frances K., 54
Olson, Harry F., 54
Oosting, Henry J., 153
Osborn, Fairfield, 115
Osborne, John, 175
Othmer, D. F. See Encyclopedia of chemical technology, 65
Otis, Jay L., & Leukart, R. H., 94
Owen, Halsey F., 153

—P—

Palmer, F. R., & Lauerssen, G. V., 72
Parish, Henry J., 191
Parker, George H., 191
Parsons, A. B., 73
Parsons, R. H., 94
Paschkis, Victor, 132
Pauling, Linus C., 34
Pearce, W. E., 115
Pearl, Richard M., 133
Pearson, Haydn S., 54, 115
Penman, David, & Penman, J. S., 94
Perrigo, A. E. B., 115
Perry, Josephine, 95
Peterson, Roger Tory, 16
Pettit, Ted, 54
Phelps, Dudley M., 54
Phelps, Earle B., 191
Phillips, Charles J., 175
Phillips, E. N., 95
Pickering, James S., 191
Pickwell, Gayle B., 54
Pierce, J. A., 153
Pierce, Willis C., & Haenisch, E. L., 175
Pigman, W. W., & Goepp, R. M., jr., 191
Pigman, W. W., & Wolfrom, M. L., 192
Pinchot, Gifford, 55
Pippard, A. J. S., 55
Platt, Rutherford, 73
Pope, Alan, 16
Pottenger, Francis Marion, 133
Potter, Ralph K., 73
Pound, Robert V., 133
Powell, C. F., & Occhialini, G. P. S., 73
Preidel, Edward E., 192
Proskauer, E. S. See Mark, H., & Proskauer, E. S., 92
Pulver, Harry E., 55
Purday, H. F. P., 175
Purse, Frederick W., 56

—R—

Rabl, Samuel S., 95
Ragan, George L., 154
Ralston, A. W., 154
Rawlings, Arthur L., 154
Raymond, William G., 74
Read, John, 192
Reed, Myril B., 192
Relton, Frederick E., 34, 192
Reyner, J. H., 192
Richardson, E. G., 16
Richardson, Leon B., & Scarlett, A. J., 34
Richert, G. Henry, 35
Richter, H. P., 74
Richtmyer, F. K., & Kennard, E. H., 133
Ricketts, Edward F., & Calvin, Jack, 192
Rider, John F., 192
Rider, John F., & Uslan, S. D., 74, 133
Rigsby, Herbert P., & Groneman, C. H., 176
Riley, Herbert Parkes, 134, 154
Ritt, Joseph Fels, 134
Roberts, A., 56
Roberts, Arthur, 95
Roberts, H. Armstrong, & Platt, C. S., 35
Robson, A., 116
Roetger, R. C., 35
Rogers, Frances, & Beard, Alice, 134
Rose, Arthur, & Rose, Elizabeth, 176
Rosen, Edward, 56
Rosen, George, & Caspari-Rosen, Beate, 134
Rosenfeld, Léon, 154
Rosenfield, Isadore, 35
Rowe, A. P., 176
Rowland, Floyd H., 17
Royal, John F., 193
Rudolph, Harold J., 74

—S—

Sahag, Leon Marr, 134
Sahyun, Melville, 95
Salle, A. J., 155
Sandage, Charles H., 95
Sandeman, E. K., 56
Sanford, Frank E., 35, 74
Sasuly, Richard, 57
Satterfield, G. H. See Dann, W. J., & Satterfield, G. H., 25
Saunders, Richard M., 74
Sawyer, R. Tom, 17
Say, M. G., 57
Schaaf, William L., 193
Scheer, Bradley T., 155, 176
Schultz, Leonard P., & Stern, E. M., 134
Schutt, William H., 176
Schwartz, Louis, 17
Schwarzkopf, Paul, 35
Scorer, S. D., 96
Scoville, Warren C., 193
Sears, Francis W., & Zemansky, M. W., 36, 155
Seegers, Walter H., & Sharp, E. A., 193
Seelye, Elwyn E., 36
Seinwerth, Herman W., 116
Seitz, Frederick. See Fonda, Gorton, R., & Seitz, Frederick, 125
Severns, William H., & Degler, H. E., 155
Shand, Samuel James, 155
Shaw, R. W., & Boothroyd, S. L., 135
Shepard, William P., 156
Sherman, Henry C., 36
Sherrington, Charles, 135
Shields, Bert A., 176
Shipley, Robert M., 75
Shnidman, Louis, 177
Shoemaker, James S., 57, 156
Shoemaker, Richard W., 116
Shostak, Arnold A., 135
Shrewsbury, James B., 116
Shriner, Ralph L., & Fuson, R. C., 116
Shrock, Robert R., 194
Shryock, Richard H., 18
Silman, H., 135
Simons, Eric N., 57, 96
Singleton, Jack, 75
Skilling, William T., & Richardson, R. S., 58
Slater, John C., & Frank, N. H., 58
Slaughter, Frank G., 58
Sloan, Alvin, 117
Slurzberg, Morris, & Osterheld, William, 135
Small, James, 37
Smith, C. H. Gibbs-. See Gibbs-Smith, C. H., 186
Smith, Charles Z., 18
Smith, Edward S., 96
Smith, Ernest A., 117
Smith, F. J., & Jones, Emlyn, 156
Smith, H. P., 194
Smith, Harris P., 135
Smith, R. A., 37
Smith, Walter H. B., 156
Smith, William J., 194
Smith, Woodrow, 156
Smullin, L. D., & Montgomery, C. G., 156
Sneeden, J-B. O., 37
Snell, Foster Dee, & Snell, C. T., 136
Snoek, J. L., 18
Snyder, Thomas Elliott, 177
Society of the Plastics Industry, 58
Soderberg, P. M., 194
Soller, J. T., 177
Sollmann, Torald, 96
Somerset, F. G., 157
Southwell, John, 18
Spangenberg, Karl R., 136
Spencer, S. N., 75
Spencer-Jones, Harold, 96
Spotts, M. F., 194
Spowers, William H., jr., 75
Spriegel, W. B. See Lansburgh, Richard H., & Spriegel, W. B., 11
Spring, Harry M., jr., 19
Squire, Alexander, 37
Stafford, H. E., 75
Stanway, H. Geddes, 96
Stearns, Howard O., 97
Steeds, William, 194

Steiner, Luke E., 194
Steinitz, E. W., 117
Stepanoff, Alexey J., 117
Stephanides, T., 97
Stephenson, H. K. See Applied physics, 181
Stetson, Harlan T., 38
Stevels, J. M., 157
Stevenson, J., & Miller, W., 59
Stewart, David S., 97
Stewart, G. F. See Advances in food research, 177
Stewart, Irvin, 136
Stewart, Jean J., & Edwards, A. L., 194
Stewart, Jeffrey R., 38
Stimson, Philip Moen, 76
Strock, Clifford, 97
Strohm, Rufus T., & De Groot, Archibald, 195
Strong, John H., 76
Strutt, M. J. O., 76
Stuart, Edwin H., & Gardner, G. S., 77
Stuart, F. S., & Biard, H. C., 97
Stubbings, George W., 77, 195
Suits, C. G. See Applied physics, 181
Sutton, Albert A., 177
Svoboda, Antonin, 98
Swain, Ralph B., 157
Swinnerton, H. H., 59
Szent-Györgyi, Albert, 117

—T—

Tangney, Mary E., 77
Tanner, F. W., & Tanner, F. W., jr., 157
Tarboux, Joseph G., 77
Tate, Newman, 19
Taylor, Denis, & Westcott, C. H., 158
Taylor, Donald W., 158
Taylor, E. D., 195
Taylor, William T., & Weber, R. J., 177
Teale, Edwin Way, 195
Teasdale, H., & Walton, E. C., 77
Technical Association of the Pulp and Paper Industry, 136
Teleky, Ludwig, 177
Terman, Frederick Emmons, 118
Terzaghi, Karl, & Peck, R. B., 136
Theilheimer, Wilhelm, 158
Theodorsen, Theodore, 177
Thomas, D. Hylton, 158
Thompson, Torger G., & Peterson, R. A., 19
Thomson, Louis M. Milne-. See Milne-Thomson, Louis M., 131
Thomssen, Edgar G., 78
Tibbs, Christopher E., 20
Titmuss, F. H., 159
Tobey, James A., 59
Todd, J. A., 178
Toms, Charles F., 38
Top, Franklin H., 78
Torrey, Henry C., & Whitmer, C. A., 137
Townsend, John, 137
Trefftzs, Kenneth Lewis, & Hills, E. J., 38
Trelease, Sam F., 137
Trevethick, R. A., 98
Trist, P. J. O., 178
Turner, Claude A. P., 98
Tyler, Chaplin, 178
Tyler, F., 178
Tyler, Paul M., 196

—U—

Udane, Bernard, & Gillary, H. W., 196
Uhlig, Herbert H., 98
Ukers, William H., 196
United States—Radio Research Laboratory, Harvard University, 99
Uris, Auren, 196

—V—

Vail, Gilbert, 20
Van den Broek, John A., 99
Van Iterson, F. K. Th. See Iterson, F. K. Th. van, 69
Vanstone, Ernest, 78
Van Voorhis, Stanley N., 178
Veale, S. E., 78
Veinott, Cyril G., 138
Venable, William Mayo, 138
Verwey, E. J. W., 179
Vincent, Edward T., 138
Vogel, Arthur I., 118
Vogt, William, 179

—W—

Walker, R. C., 159
Walker, William F., 99
Walter, Carl W., 159
Ward, Robert Page, 78
Ware, George A., 196
Waterbury, Leslie A., 59
Watton, E. B., 38
Watts, J. L., 159
Waugh, Sidney, 100
Weatherwax, Paul, 118
Weaver, Warren, 59
Webster, R., 39
Weil, B. H., & Lane, J. C., 138
Weindling, Ludwig, 79
Weingart, George W., 79
Welch, Paul S., 179
Welcher, Frank J., 39, 118
Weldon, T. F., 197
Wellman, William R., 138
Werner, Earl F., 159
Wernick, S., 197
West, Clarence J. See Technical Association of the Pulp and Paper Industry, 136
West, Phillip W., 160
Wherry, Edgar T., 139
White, Alfred H., 160
White, Harvey E., 179
White, John M., 179
Whiting, Percy H., 79
Whitmore, Eugene. See Aspley, John Cameron, & Whitmore, Eugene, 162
Whittaker, Roland M., 139
Widder, David V., 79
Wiener, Meyer, 180
Wilbur, John B., & Norris, C. H., 180
Willems, J. Daniel, 139
Williams, Albert E., 197
Williams, D. R. H., 100
Williams, Herbert E., 118
Williams, R. Gillespie, 39
Williams, R. Tecwyn, 139
Williams, Robert S., & Homerberg, V. O., 197
Williams, Trevor I., 79
Wilson, G. Fox, 119
Wilson, W., 197
Wingren, Roy Matthew, 198
Winkelstein, Asher, 198
Wise, S. J., 180
Wislicenus, George F., 119
Woldman, Norman E., 80
Wolf, Frederick A., & Wolf, F. T., 20
Wolfrom, M. L. See Pigman, W. W., & Wolfrom, M. L., 192
Wood, Karl D., 39
Woodbury, David O., 198
Woodcock, Frederic L., 139
Worden, A. N., 198
Worthing, Archie G., & Halliday, David, 119
Wostrel, John F., & Praetz, J. G., 140
Wray, Laurence, 119
Wulf, Lulu K., 80

—Y—

Young, V. W., & Young, G. A., 80
Younger, John, & Geschelin, Joseph, 100
Your solar house, 40

—Z—

Zeisel, Hans, 40
Zelliot, Ernest A., & Leidner, W. E., 60
Zeluff, Vin, & Markus, John, 140
Zimmerman, O. T., & Lavine, Irvin, 160
Zoethout, William D., 140, 160
Zucrow, Maurice J., 120
Zweng, Charles A., 40

Erratum in Volume 14

For "Bergmann, Ernest David" (p.141) read Bergmann, Ernst David.